

DIABETES CLOSE UP

Diabetes Close Up, V3, #3
January 20, 2004
JNJ 4Q03 Results and Lit Media Roundup

1. **Company Roundup: JNJ reported 4Q / 2003 results this morning.**
 - LifeScan reported annual revenues exceeding \$1.4 billion in 2003, up 6% year over year.
 - Quarterly revenues totaled \$387 million, up 12% year over year and 7% sequentially.
 - Reported domestic 4Q03 revenues rose 1% and international rose 28%.
 - Operationally, worldwide revenues rose 5% and international revenues increased 12%. More details below. ~
2. **Literature/Media Roundup**
 - *The Economist* on obesity ("Filling the World's Belly," December 13, 2003)
 - *Time* on diabetes ("Diabetes: Are You At Risk?" December 8, 2003)
 - *JAMA* on dangers of being young and fat ("Cardiorespiratory Fitness in Young Adulthood and the Development of Cardiovascular Disease Risk Factors," December 17, 2003)
 - *Annals of Internal Medicine* on whether six lattes a day keeps the endocrinologist away ("Coffee consumption and risk for type 2 diabetes mellitus," V. 140, 2004)
 - *Various government reports* on latest healthcare spending – more bad news.
3. **On the Road: Upcoming diabetes/obesity-related conferences of note.**
 - **February 6-8, 2004**, ADA 51st Annual Postgraduate Course. San Francisco, CA
<http://www.diabetes.org/main/professional/conferences/default.jsp>
 - **February 12-14, 2004**. Third La Jolla Conference on Glucose Monitoring and Control. San Diego, Ca. <http://glucoseconference.ucsd.edu/index.html>
 - **March 17 – 20, 2004**. Diabetes UK Annual Professional Conference. Birmingham, England.
<http://www.diabetes.org.uk/apc/>
4. **Diabetes Close Up commercial!** *DCU's Diabetes 2004 Roundup* will be published in February; pre-publication discount available through February 15 for our first annual diabetes/obesity review. Full ordering information to follow shortly on our website. If you would like more information, please e-mail info@closeconcerns.com. The volume will contain:
 - Detailed notes on 20 conferences in 2003, including ADA, AADE, EASD/IDF, NAASO
 - Top ten research articles of 2003
 - Top diabetes/obesity themes of 2003
 - *DCU High Five Awards* – the best products of 2003
 - Key conferences in 2004

-
1. **JNJ reported 4Q and 2003 results this morning.**
 - **On a reported basis, LifeScan sales rose 12% worldwide for 4Q03** versus a year ago, reflecting 1% growth in the US and 28% international growth. **Operationally, worldwide sales grew 5%** versus a year ago, while international sales grew 12%.
 - **IMS data indicates LifeScan volume is up well above than 1% in the US, suggesting that at least some pricing pressure continues to exist (we understand mail order continues to grow and now represents 25% of category sales) and that product diversion likely benefited international sales of blood glucose monitoring at the expense of domestic sales.** We believe J&J's new distribution policies will help its US blood glucose monitoring business (and worldwide business overall) in this regard. While sales results are undoubtedly influenced by a range of factors, relating to competition, payors, promotions, currency (this quarter a big tailwind

was likely particularly helpful), market fluctuations, etc. we believe that domestic growth rates would have been higher, perhaps significantly so, in the absence of product diversion.

- The last edition of our newsletter addressed J&J's new policies aimed at thwarting the problem of product diversion ("*JNJ Gets Tough on Wholesalers*" in DCU, V3, #2, posted on www.closeconcerns.com). There, we reported that 26 of J&J's LifeScan distributors had agreed to only distribute J&J products; as of today, that number has climbed to 40.
- The *Wall Street Journal* commented today on the recent slew of interest in this area – check out Mark Ingebretsen's Daily Scan for more information. Canadian growth rates are of particular interest to us – the WSJ quoted a recent Washington Times editorial that noted that Canada does not allow the FDA to inspect its wholesale or distribution operation. Canada is a net importer of various treatments, including imports from many countries considered havens for counterfeiters and diverters, such as Saudi Arabia, India, Pakistan, and certain nations in Africa.
- **Other LifeScan commentary on today's call** was not extensive, probably because J&J hosted an analyst meeting where pharma was a bigger emphasis. Management did note that the Ultra franchise continues to achieve share growth in the US, which was offset by a greater decline in sales of older technology (likely Basic, SureStep, etc.)
- **CEO Bill Weldon spoke on product innovation on the medical device/diagnostics front.** Unsurprisingly, they continue to keep things close to the vest at LifeScan. Although history would imply that interesting work ongoing in various product areas there, Weldon cited only enhanced data management, noting that UltraSmart would be launched in Europe this year.
- **Continue to watch the pipeline front** for news on compounds related to diabetes or obesity; no doubt J&J's slew of impressive scientists are working away on several potential magic bullets. www.investor.jnj.com/downloads/4Q03websitepipeline.pdf
 - J&J updates its pipeline spreadsheet every quarter. We thought we might see news on the potential Topamax obesity indication, though this quarterly spreadsheet represents a "select" list and doesn't include every drug or indication – only Phase III and filed drugs are included. At EASD, it was said Topamax would be in Phase III sometime this year, so look for more news on this to follow. We'll be continuing to watch closely what happens with formulation and side effect profile.
 - For pharma overall, we learned there are 87 projects on which early work is being done, 74 projects in full phase testing, and that 50 applications (for new drugs/indications) are expected to be filed over the next five years.
 - Note that for the next review (1Q04), J&J will host an R&D review in New York, where we'll learn more on what J&J is doing on the metabolic disease front, which Weldon did mention as a future area of major focus. At an analyst meeting a couple of years ago, management noted that 25% of J&J NDAs were in the area of metabolic disease (diabetes, obesity, etc.) so it'll be interesting to get that update next quarter.
- **Our focus isn't only on how J&J will build its pipeline; its stellar balance sheet** would allow for a multitude of acquisitions both in pharma as well as medical devices if the right fits were found; we will stay tuned on this front.
- **Sweet news on Splenda!** So I've been watching Splenda for some years now – this sweetener is awesome and it's starting to get some real traction, having achieved ~\$300 million in sales in 2003. It's now offered in over 32 countries, is in 3000 different brands, and is the top tabletop sweetener. Patients love it for two reasons: they can bake with it, unlike the old sweeteners and it tastes great – it's actually hard to believe the first time you taste cookies made with Splenda, for example – it literally has no sort of weird artificial taste. We have a truckload of it at our place since it is given out at various diabetes meetings so let me know if you want a sample mailed to you!
- **Postscript on Splenda – Viactiv:** There are undoubtedly other "neutraceutical" products that are doing well at J&J that weren't highlighted today – this is definitely a hot new area. Aging expert Ken Dychtwald even talked about it at last week's JPM conference, in a very entertaining session.
 - J&J has a product for women called VIActiv – these are bite-size "soft calcium chews." 2-3 squares contains 100% of daily calcium recommended along with vitamin D & K ~ and each square is 20 calories each. This is a McNeil product.

- So the first time I heard about it, some months ago, my response was “*Yeah, yeah, right ...*” – most of that sort of stuff has a deadly taste.
- However I tried one (chocolate is my favorite but there is something for everyone, even Mochaccino¹ and ... all right, it isn’t just that it tastes “okay” and is healthy ... it tastes *great* (←ital)!
- The only downside is that you can’t buy these from the otherwise useful Viactiv website http://www.viactiv.com/product_info.jhtml - when you call McNeil help line, they urge you to buy at Target, Wal-mart, or a drugstore. We all can probably use the walk required ...if not, they’re also at www.drugstore.com.

2. **Literature/Media Roundup, Part 1 – The *Economist* on Obesity** (“Filling the World’s Belly, December 13, 2003):

To close 2003 and to mark the arrival of the gluttonous festivities and parties that characterize the year-end holiday season between Thanksgiving and New Year’s, both *Time* magazine and *The Economist* ran December feature stories concerning the rise of diabetes and obesity. The December 8th, 2003 *Time* issue focused on the nuts and bolts of the diabetes epidemic, including a general overview of the genes, proteins, and molecules involved in the etiology of diabetes and the alarming statistics showing its spread in the U.S. (see page 4 for more on this) while the *Economist* published an impressive food survey that examined the ways industrialization, globalization, and marketing have revolutionized the availability of food and sedentary lifestyles across the world.

In light of the immense setbacks a continued rise in obesity would generate in terms of world economies and quality of life, we believe governments have or will soon find themselves compelled to intervene in novel ways. The *Economist*’s food survey explores the potential options. Although a less direct approach than the more mass-market focused *Time* piece, the *Economist* survey, with eleven separate pieces, is a literal treasure trove of education relating to obesity:

- Filling the world's belly
- Fatter than other animals
- Making it cheaper, and cheaper: how technology pushes down price
- Selling to the developing world: it's tough but worth it
- The feel good factor: tasty food is sugary, fatty, and salty
- Make it convenient: that tends not to mean healthy
- Fancy that, healthy ketchup: food as medicine
- Organic? Don't panic: what the birds and bees say
- In search of the good: but even that can make you fat
- Outflanking the enemy: can governments make people thin?
- How sugar gets into schools: battle of the vending machines

In addition to these pieces, the website lists – and links – some fantastically interesting documents, including the following:

- *Why Have Americans Become More Obese?* by David M. Cutler, Edward L. Glaeser, and Jesse M. Shapiro, Harvard University, 2003. The full text of this 56-page treatise is available, which reviews the implications of technological change i.e., mass preparation of food².
- “*Tackling the weight of the nation,*” by Susan Jebb and Toni Steer, Medical Research Council, 2003. The full text of this piece addresses how to approach obesity in the UK – it’s the *Economist*

¹ Currently, a sold-out flavor on drugstore.com. www.drugstore.com/search/search.asp?search=viactiv&searchtype=1&trx=28198&trxp1=60&srchtree=1

² One excellent take-home point: the authors highlight that on average in the US, average daily time for food preparation has declined by 20 minutes from 1965 – 1995. Over the same period, average weight gain was ten pounds. “This represents about 100 calories per day, or about 1 mile of daily exercise. If it takes 15 minutes to walk or job a mile, the time cost of the 10-pounds gained is about 15 minutes per day ... Of the 20 minutes saved in food preparation, people could spend 15 minutes exercising, lose the weight gained, and still have five minutes left over.” Well, when you put it that way ...

after all! It struck us that the UK seems far *more* concerned over obesity problems that are somewhat *less* prevalent than in the US.

So let's get down to brass tacks: how far are we from a fat tax? Free-market advocates maintain the conviction that freethinking people are capable of weighing the relative risks of consuming high-fat foods and choosing their diets accordingly, without the undue interference of government. Corporations in the fast-food industry insist they simply are serving an existing market demand and thus themselves are not to blame for current obesity trends. Indeed, the readiness with which the market has picked up on the demand for organic and health foods demonstrates its plasticity and equal ability to promote health-savvy trends. A story in the January 14th edition of the Wall Street Journal, “*Now Low-Carb: Unilever's Skippy, Wishbone, Ragu*” showed how rapidly the food industry is responding to the low-carb diet craze started by the Atkin's revolution, proving that the business world can serve healthier products even without government pressure. (In the next DCU, we'll have a report on how Atkin's is revising its recommendations in response to pressure from competition and the healthcare community.) However, in the eighties, obesity shot up along with the popularity of Slim Fast shakes, proving that it will take more than stocking shelves with diet products to reverse the obesity trend. Thus, one lingering question is, to what extent should the government and private sector formulate policies – from “fat” taxes to differential health insurance rates – to provide sufficient incentives for people to exercise and eat healthier foods in order to properly manage their weight and health? The *Economist's* editorial answered bluntly: “If people want to eat their way to grossness and an early grave, let them,” reflecting a deep libertarian reluctance to draw government further into the private domain. However, while “fat taxes” may (arguably) go too far, no responsible government can sit back and watch obesity and its related disorders continue to erode much of the world's quality of life and economic vitality without considering other less intrusive strategies.

If we think the West is bad... While the growth of the diabetes epidemic has been highest in the West, the *Economist* article points out that its potential spread is even graver in the developing world, especially in Asia, where the population may be more genetically susceptible. The fact that the heavier British population has a lower rate of diabetes (3%) than the relatively slimmer Indians (5.5%) supports the notion that diabetes arises from causes more complex than merely putting on body fat. This divergence in susceptibility may arise from differences in genetic material as well as in Asia's exceedingly swift adoption of the Western diet and lifestyle. One theory is that the development of the metabolic system is highly influenced by the intrauterine environment, suggesting that those exposed to stresses in the womb may be even less equipped to deal with the modern plenty. Thus, the populace and the budgets of these developing countries may be particularly afflicted by the global surge of diabetes cases.

A section titled “Fatter than other animals” attributes the genetic propensity of humans towards obesity to the greater survival of a “thrifty gene” during intense agricultural famines. While most animals avoid getting fat even when food is abundant, geneticists theorize that the great instability of the agricultural lifestyle promoted human genes that stored fat during hard times, while less thrifty genes died off. In the early 1960s, anthropologist James Neel theorized that the Pima Indians of Arizona became particularly susceptible to diabetes because 19th century white farmers cut off their water supply, resulting in widespread malnourishment and subsequent selection of thrifty genes. However, the article fails to mention that the Pima Indians that currently live in Mexico and maintain a traditional diet are not experiencing the current epidemic of diabetes of their Arizona brethren. Thus, thrifty genes result in high rates of diabetes only when combined with a modern high-fat diet and sedentary lifestyle. In addition, the thrifty gene hypothesis does not account very well for the different genetic propensities for diabetes among such racial and ethnic groups as Japanese and African, who were not exceedingly wedded to agricultural lifestyles compared to white populations.

Huge costs face us – and await us: The global diabetes epidemic is certain to inflict costs at many levels of society: for the individual footing health bills, for state and private health insurance industries, as well as for companies losing productive workers to illness. Given these costs, the inevitable question involves the assignment of blame and responsibility to lazy individuals, neglectful governments, the domination of “imperial” Western culture across the globe, greedy corporations peddling products detrimental to public health, and perhaps even the disappointment of research efforts to produce effective therapies. While the recognition of the joint responsibility of all these players may generate the cooperative initiative vital to the

checking further spread of diabetes, the potential for the issue to degenerate into a political blame-game bodes ill for all the world's beta cells.

--By Martha Nelson and Kelly Close

2b. Literature/Media Roundup, Part 2 - Time, "Diabetes: Are You At Risk?"

The December 8th *Time* cover story "Diabetes: Are You At Risk?" covered the American diabetes epidemic from a number of different angles in several interrelated stories. The cover, "Why So Many Of Us Are Getting Diabetes" highlights the gap that persists between the huge growth of scientific understanding of the diabetes condition and the relatively limited translation of this research into clinically effective treatments.

In addition, some more interesting, some less interesting supplemental stories were covered:

- The nuts and bolts of the biological mechanisms underlying the disease in "The Body's Sugar Factory;"
- "A Star's Smart Cookbook," an account of famed singer Patty LaBelle's personal struggle with type 2 diabetes and her enterprising diabetes-friendly soul food cookbook;
- "A Body Making War on Itself," a reminder that while type 2 diabetes absorbs much of the media's attention for the immensity of its rise and health burden, type 1 still inflicts over 1 million Americans and represents another critical health issue; and
- "What You Can Do" offers the relative dietary, exercise, lifestyle, and medical interventions that lower the risk of developing type 2 diabetes.

While much of the material covered in the *Time* piece should be relatively familiar to those who follow diabetes in the news (including the usual glum forecasts for future incident rates spanning all ages, genders, races, and nationalities), the article touched upon a few newer, more notable developments. These include 1) a shifting focus towards identifying an expanding cohort of pre-diabetics with abnormal glucose levels who may represent a critical target group for preemptive medical interventions; and 2) a growing body of evidence associating diabetes to an inflammatory response, which may represent a new area for research and treatment. In sum, the article re-emphasizes the ever-alarming extent of the diabetes epidemic, the pressing need for further research and new treatments, and the immense market for drugs, devices, and various products and services (from cookbooks to personal trainers) that will market themselves to this surging afflicted population.

- **Earlier interventions targeting a larger cohort of pre-diabetics:** The American Diabetic Association's recent recalibration of the pre-diabetic category, which describes individuals at-risk for diabetes, to include those whose fasting glucose levels exceed 100 mg/dL (versus the previous 110 mg/dL standard) reflects the medical profession's growing acknowledgement of the need to identify and address metabolic problems prior to the actual onset of diabetes. This growing cohort of 20 million pre-diabetic Americans represents a critical target group for preemptive intervention to thwart the current surge of diabetes cases. Part of the *Time* article focused on the latest 2002 Diabetes Prevention Program (DPP) study, which, as industry followers know, was a 3,000-plus-person trial across 27 U.S. centers that demonstrated how interventions aimed at a pre-diabetic cohort can forestall the further progression of insulin resistance that results in diabetes. In this extensive clinical study, people identified as pre-diabetic were either 1) given the drug metformin; 2) enrolled in a nutrition and exercise program with the reasonable aim of 7% weight loss; or 3) given a placebo. After three years of the trial, 30% of the placebo group had developed diabetes, versus 22% of those who had taken metformin and only 14% of the nutrition and exercise group. Although researchers considered the initial results so remarkable that they halted the study a year early, they wish to continue examining whether this apparent reversal of fortunes is truly enduring or whether such interventions merely delay the inevitable development of the disease. In addition, skeptics wonder how cost-effective these intervention strategies may be, given the high expenditures associated with the personal trainers and nutritionist guidance that may be needed to replicate these subjects' weight loss. Perhaps the real question is how to get exercise into the

mainstream – one recent step in Canada was the recent propensity for “exercise prescriptions,” which alas are just like drug prescriptions, but cheaper and maybe better³.

- **Role of inflammation in diabetes – new avenues for diagnosis and treatment:** The article also highlighted a growing body of new evidence linking development of type 2 diabetes to an inflammatory response (as indicated by high levels of C-reactive protein (CRP)). We believe that confirming this link between inflammation and diabetes would 1) improve doctors’ ability to identify pre-diabetic patients, as inflammation is much more easily detected than insulin resistance, which is not simply signified by abnormal glucose levels; 2) potentially steer future research efforts towards identifying the root origins of this inflammation to identify novel factors that cause diabetes; and 3) suggest new treatment strategies that target the inflammation directly, such as aspirin and other anti-inflammatory medications. When studies first began associating type 2 diabetes to inflammation several years ago, the results were received rather skeptically. However, since then, at least a dozen studies have verified the link, although scientists have yet to determine what is causing the inflammation. Theories abound, including various possible metabolic culprits associated with obesity, such as free fatty acids. Researchers also do not know for certain whether the inflammation is merely a sign of the diabetic condition or whether it actually contributes to the development of the disease itself.

Selected Raw Data:

- **Global problem:** Over the next couple of decades, diabetes prevalence is expected to triple in Africa, the eastern Mediterranean, the Middle East and Southeast Asia, to double in the western Pacific and to nearly double in Europe; India currently has the most worldwide cases (33 million), while China has 23 million.
- **Current problem:** 18.2 million Americans with either type 1 or type 2 diabetes (note that this is 6.3% of the population; of this 18.2 million, 5.2 million remain undiagnosed).
- **Rising problem:** 1.3 million new cases diagnosed last year (up from 878,000 in 1997); epidemiologists predict the incidence of diabetes will double by 2025.
- **Deadly problem:** This year more than 200,000 Americans will die of complications arising from the diabetic condition – to boot, that’s likely a huge underestimate since many death certificates cite conditions other than diabetes that were actually caused by diabetes in many respects, particularly many conditions prompted by macrovascular complications of diabetes, such as cardiovascular disease and stroke.
- **Costly problem:** Annual (direct and indirect) treatment are costs expected to rise from \$132 billion to \$192 billion in 2020 (excluding inflation). Again, we believe this estimate may be conservative since, among other reasons, many people are developing the disease at a much younger age, meaning that complications will endure longer and may develop into more acute, more costly conditions.

--By Martha Nelson and Kelly Close

2c. Literature/Media Roundup, Part 3: JAMA on being young and fat.

In the December 17, 2003 edition of JAMA, researchers observed a 3- to 6-fold increase in diabetes, hypertension, and the metabolic syndrome (all main risk factors for cardiovascular disease (CVD)) in participants exhibiting low levels of activity (in the lower 20th percentile) versus those who were more active (in the 60th percentile or above). Although the strength of these associations diminished to 2-fold upon adjustment for body-mass index (BMI), and to only a 50% reduction following multivariate adjustment (age, sex, genetics, etc.), this still represents a significant protective value for physical exercise against CVD risk factors independent of the contribution of fitness to observable weight loss.

Researchers attribute the association between exercise and fewer CVD risk factors to the role of exercise in promoting many chemical processes in the body related to diabetes and metabolic syndrome. Fitness enhances muscle insulin sensitivity and insulin-mediated transport of glucose to muscles, lipoprotein lipase

³ In an upcoming issue we will focus on the response to Canada’s new guidelines.

activity in skeletal muscle and greater clearance of plasma triglycerides, increases HDL cholesterol, and lowers heart rate, among many other biological benefits. The study did find, however, that exercise has a negligible effect on LDL cholesterol levels, which appears to be more genetically fixed.

Increased fitness over seven years resulted in significant decrease of diabetes and metabolic syndrome, suggesting that later changes in exercise regimens can produce immediate health benefits. The authors of the study conclude that exercise imparts both direct health benefits, as well as indirect benefits arising from the relationship between fitness and weight loss, and thus should be particularly emphasized for protection against CVD risk factors.

--By Martha Nelson and Kelly Close

2d. Literature/Media Roundup, Part 4: Six Lattes a Day Keeps the Endocrinologist Away?

The media jumped all over the findings published in the latest edition of the *Annals of Internal Medicine*⁴ that surveyed subjects who reported the highest consumption of coffee had significantly fewer diagnosed cases of type 2 diabetes. Although the text behind the bold headlines qualified the findings as clearly inconclusive and requiring further investigation into the precise metabolic effects of caffeine, perfunctory readers may imagine that excessive caffeine consumption could potentially ward off diabetes. At minimum, the story may have reaffirmed pre-existing suspicions that we really have no clue what might be good or bad for the body – we may be exaggerating for effect, but does this further encourage people to ignore the stream of seemingly ever-modified medical advice and simply consume what they wish?

Indeed, even those who look beyond the headlines and scrutinize the study itself may find themselves more confused by the wide range of scientific findings and opinions regarding the relationship between caffeine and diabetes. On one hand, the majority of past studies⁵ describe the negative impact of caffeine on glucose tolerance and insulin action, linking caffeine with decreased insulin sensitivity, a hallmark of the diabetic condition. However, these studies tend to examine only the immediate effect of caffeine on metabolism, rather than more significant long-term effects.

In fact, this *Annals of Internal Medicine* study and a recent Dutch study⁶ that observed an inverse relationship between caffeine intake and development of type 2 diabetes are longer-term studies that suggest the reverse of the short-term studies: that caffeine may have long-term beneficial effects by stimulating fat metabolism, uptake of glucagon in the muscle, and free fatty acid release from peripheral tissues. However, although tests on monkeys link caffeine to decreases in weight, in this *Annals* study there was no significant association between body-mass index and caffeine intake. The study also noted that insulin sensitivity generally is restored a few days after the immediate reduction caused by high caffeine intake, suggesting that the negative effects of caffeine on insulin sensitivity may indeed be transient.

In conclusion, the authors of the study extrapolated no recommendations for caffeine intake from their results. However, the findings are certainly intriguing and encourage further investigation into this observed linkage. For example, early signs of impaired-glucose tolerance and diabetes include frequent urination, which might discourage excessive consumption of coffee, which would exacerbate these symptoms. Thus, the reason why those who heavily consume coffee have less diabetes may reflect self-selective processes that eliminated from this cohort people with impaired glucose tolerance and a pre-existing elevated risk for diabetes. Many such explanations may account for the surprising findings of this study. However, while researchers further probe this area, the publicity the study received will only encourage convictions that the medical community remains largely unable make definitive claims regarding the relative health benefits of many foods alleged to either help cause or prevent disease.

⁴ Hu FB, et al. Coffee consumption and risk for type 2 diabetes mellitus. *Annals of Internal Medicine*. 2004; 140:1-8. Please let us know if you would like a copy.

⁵ Keijzers GB, De Galan BE, Tack CJ, Smits P. Caffeine can decrease insulin sensitivity in humans. *Diabetes Care*. 2002; 25:364-9.

⁶ van Dam RM, Feskens RJ. Coffee consumption and risk of type 2 diabetes mellitus. *Lancet*. 2002, 360:1477-8.

The Raw Data:

# of cups of coffee consumed daily	Relative risk of type 2 diabetes*
0, men	1.00
<1, men	1.00
1-3, men	0.92
4-5, men	0.70
More than 6, men	0.46
0, women	1.00
<1, women	1.10
1-3, women	0.90
4-5, women	0.67
More than 6, women	0.75

*adjusted for age and BMI

--By Martha Nelson and Kelly Close

2e. Literature/Media Roundup, Part 5: Recent Trends in Healthcare Spending – More Bad News

Healthcare spending totals 15% of the economy according to recent government reports. Some quick stats on some trends seen in the industry, especially in pharmaceuticals:

- Healthcare spending has seen the largest jump in 11 years—9.3% in 2002—a total of \$1.55 trillion.
- Hospital care and prescription drugs contributed to the majority of the increase—it has surpassed economic growth for the past 4 years.
- In 2002, 10.5 cents of every dollar spent on healthcare in the U.S. was due to prescription drugs—1/6 of the increase in health spending. In terms of out-of-own-pocket expense for healthcare, Americans spent 23% on prescription drugs—a 51% increase in 2002 to \$48.6 billion from \$6.1 billion.
- The government predicts that by 2012, health spending will account for 17.7% of the GDP.

--By Janet Ng and Kelly Close

3. On the Road: Upcoming diabetes/obesity-related conferences.

- **February 6-8, 2004**, ADA 51st Annual Postgraduate Course. San Francisco, CA
<http://www.diabetes.org/main/professional/conferences/default.jsp>
- **February 12-14, 2004**. Third La Jolla Conference on Glucose Monitoring and Control. San Diego, Ca. <http://glucoseconference.ucsd.edu/index.html>
- **March 17 – 20, 2004**. Diabetes UK Annual Professional Conference. Birmingham, England.
<http://www.diabetes.org.uk/apc/>

4. **Diabetes Close Up commercial!** DCU's *Diabetes 2004 Roundup* will publish its first annual diabetes/obesity roundup in February. Ordering information to follow shortly on our website. Please let us know if you are interested by e-mailing info@closeconcerns.com. Discounts on pre-orders received before February 15, 2004. The volume will contain:

- Detailed notes on 20 conferences in 2003, including ADA, AADE, EASD/IDF, NAASO
- Top ten research articles of 2003
- Top diabetes/obesity themes we saw in 2003
- DCU High Five Awards – the best products of 2003
- Key conferences in 2004

Special thanks to Holly Lanham, Martha Nelson, and Janet Ng for their contributions to this issue of Diabetes Close Up.

-- Kelly L. Close

Diabetes Close Up is a newsletter highlighting notable information and events related to selected companies with diabetes/obesity businesses. This newsletter is put forth as an unbiased commentary on the industry. If you have any suggestions or comments regarding content, please contact info@closeconcerns.com. If you would like to 1) unsubscribe; 2) receive a monthly digest rather than real-time updates; 3) add a name to the DCU mailing list; or 4) offer any suggestions or comments regarding content, please contact info@closeconcerns.com.

Disclosure: Kelly L. Close is a specialized consultant to the medical technology/pharmaceutical/biotech industries. Companies 1) in which Kelly Close has a personal investment; 2) that are clients of Close Concerns, Inc.; and/or 3) on which Kelly Close serves on a speaker's bureau, including Abbott, Animas, Amylin, Aventis, Johnson & Johnson, SimpleChoice, and TheraSense. All observations expressed are the opinions of Close Concerns alone and should not be viewed as recommendations to investors on any companies in the industry.