THE OHIO STATE UNIVERSITY

OFFICIAL PROCEEDINGS OF THE

EIGHTH MEETING OF THE

WEXNER MEDICAL CENTER BOARD

Columbus, Ohio, November 5, 2014

The Wexner Medical Center Board met on Wednesday, November 5 at the Richard M. Ross Heart Hospital, Columbus, Ohio, pursuant to adjournment.

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Minutes of the last meeting were approved.

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Mr. Wexner called the meeting of the Wexner Medical Center Board to order on Wednesday, November 5, 2014 at 12:37 pm.

Present: Leslie A. Wexner, Chairman, Janet B. Reid, William G. Jurgensen, Cheryl L. Krueger, Abigail S. Wexner, Corbet A. Price, David B. Fischer, Stephen D. Steinour, John F. Wolfe, Jeffrey Wadsworth, Michael V. Drake, Steven G. Gabbe, Geoffrey S. Chatas, E. Christopher Ellison, and Michael A. Caligiuri.

Mr. Wexner:

Good afternoon. I am not used to coming to meetings with people in white coats. I would like to convene the meeting of the Wexner Medical Center Board. Do we have a quorum?

Ms. Link:

A quorum is present, Mr. Chairman.

Mr. Wexner:

So that we are able to conduct the business of this meeting in an orderly fashion, I would ask that the ringers on all cell phones and other communication devices be turned off at this time, and I would ask that all members of the audience observe rules of decorum proper to conducting the business at hand.

The minutes of the October meeting have been distributed. Are there any additions or corrections? If not, I propose that we imply that there is consented approval. Thank you.

Dr. Gabbe, what's going on?

Dr. Gabbe:

Well, a lot of things are happening. I wanted to begin with a review of what we're doing on our efforts to be ready for the Ebola viral disease process, as you've heard about.

I want to recognize four folks among many who have been working to prepare us for the Ebola virus: Andy Thomas, who is here; Naeem Ali, who is the Medical Director of University Hospital; Julie Mangino, who leads our epidemiology group; and Christina Liscynesky, who is also an expert in infectious diseases.

There is a lot of communication among actions to date; we have been communicating with our university community and throughout the medical center. In August, we began to routinely update folks on what is happening and updating them as the situation has evolved. We have posters and signage at each access point of the medical center to make them aware of our concerns. We've had many forums for our managers, leaders, and staff and we've been holding a 5:00pm conference call every day to go over our preparation.

We are working very closely with our university colleagues. You may have seen the recent update on reporting travel to the three countries that have the active Ebola cases.

We are in collaboration among the health systems in the city. You may have seen an article that has described how we've agreed to share patients as they become infected. We, at the Wexner Medical Center, would take care of the first five, followed by Grant/Riverside, and then Mount Carmel West. Nationwide Children's will manage the pediatric patients.

We have worked very closely with Columbus Public Health, the Central Ohio Trauma System, Ohio Hospital Association, and our regional hospitals. We are working on monitoring and advising functions with the Ohio Department of Health, with the Governor's office, and with the CDC (Center for Disease Control and Prevention). We have had a lot of training, especially among our ED (emergency department)

faculty and staff, on how our ambulatory clinic should be prepared. We have a cohort of nurses, physicians, and respiratory therapists, I think 90, Andy?

Dr. Thomas:

Almost 100.

Dr. Gabbe:

Almost 100, who have volunteered for inpatient care, should we have a patient with Ebola. We are going through an extensive process of training them and videotaping them as they put on and take off the protective gear so that we can be sure they are doing it correctly and critiquing them afterwards.

We have also acquired point-of-testing devices so we can do the most important laboratory tests right in the patient rooms. We have designated rooms for the first five patients, should that happen, and we're ready with two rooms at this time.

We have also been working, this is an area of great concern around the country, for how these patients would have solid and liquid waste disposal. Working with media, working with security, and also working with IT, we have done a mock transport of a patient from the ED to the room sites and we learned a lot from doing that.

This morning, I met with the head of critical care at UC San Francisco. Dr. Bataj says hello, Dr. Drake. He said we are so far ahead of them and was really impressed with our preparation for it.

That is where we are and I know it has been a concern. I want to bring you up to date and answer any questions you might have. Things are quiet right now.

Mr. Wexner:

I am curious and this is a difficult question. Do you think institutions are getting the right kind of support from the CDC? As a civilian and trying to understand the threat, their preparations are not adequate.

Dr. Gabbe:

I think that's correct. I think the information and the guidelines have been changing over time and I think that has been one of the challenges.

Andy, do you want to comment on that?

Dr. Thomas:

The CDC is the group that is reevaluating the guidelines. The guidelines have changed over time, to some degree, because they are getting more specific. They have been very open in having discussions in conference calls.

I think they are trying to be supportive, but to some degree, I think they've been figuring out the signs since it's begun. In general, the U.S. healthcare system was not prepared for an epidemic of Ebola. I think they are trying to help us become prepared but it's been a little bit more learning on the job than I think people would have liked to have seen. There were a lot of questions early on that they didn't have answers to, that answers have evolved. I think we are in a much better position than we were two months ago. It has been stressful for exactly that reason, because of the science and recommendations changing over time.

Mr. Wexner:

We are taking the preparations thoughtfully and safely and that has been reported by Dr. Moffatt-Bruce. The notion is, if we are that good in safety, then we would be that good at anticipating this. I think we should get credit for how safe we are and how thoughtful we are about this kind of planning.

I am saying this in public and on purpose. I want to induce some marketing on that. We should get credit for the things that we do extraordinarily well. People should have confidence in our ability to think things through and be thoughtful and accurate in our insights, into health and safety or disease. Not prevention, but at least preparedness for the city, for the region, for the state.

I don't know whether I should get you on Sanjay Gupta's program on CNN. We should really be looking for these things to talk about; how good we are and that we're thoughtful about what we do, in addition to talking to the modesty of doing them ourselves.

Dr. Gabbe:

I serve on the Board of America's Essential Hospitals. I was at the board meeting last week and they were amazed with the collaboration amongst the hospitals in Columbus. In their cities, they said most folks are saying "go there" or "no, go over there"; they don't want to assume the responsibility.

Mr. Wexner:

I think that is a great marketing opportunity. God forbid the reverse is true, we would get painted with that brush really quickly and then they know we are thoughtful, had been thoughtful, and engaging all the hospitals. It's a national news story. I bet if there was somebody here from the Dispatch they would write about it, in addition to John Wolfe. Thank you.

Dr. Gabbe:

I think you provide us a great lead into our next presentation. We have asked Dr. Moffatt-Bruce, our Chief Quality and Safety Officer, to describe our University Health Systems Consortium Leadership Award and some other good news. Susan.

Dr. Moffatt-Bruce:

Thank you. This information is in your packet.

What I want to share with you today are the ranking results from the UHC, which is the University Health Systems Consortium, Quality and Leadership Award. The award itself and the ranking system is unique. It was actually devised by a group out of Harvard University working with the UHC leadership. Ian Dravidian is the statistician that drove this many years ago and was fairly controversial at the time because we would be ranking ourselves against our peers.

That being said, over the last several years, we've used these rankings to really define opportunities and to use it to collaborate with like institutions across the nation. It takes into account the Institute of Medicine's domains of care around safety, timeliness, effectiveness, efficiency, equity, and patient centeredness. This is a yearly ranking system and the data is from 2013-2014, it's timely in its manner.

These are the hospitals and these are the top performances as they were announced on October 23rd in Las Vegas at the UHC Annual Conference. You can see that we are third on the list, following peers at NYU Langone Medical Center, Mayo Clinic, and leading other hospitals such as Rush, Kansas, Emery, and Cleveland Clinic. This year they added an 11th and a 12th one, Houston Methodist and Memorial Herman.

What goes into this ranking system? They divide it into the domains of the Institute of Medicine, they allow us to be ranked based on our mortality, our effectiveness which is readmissions, as well as some core measures. They allow us to be ranked around safety, which again are these patient safety indicators that come from our operating theaters. Also, our infection rates and the way that we take care of patients in preventing blood clots. They gave us a small mark for equity around differences on our core measures in gender, race, socioeconomic status, and patient centeredness. They give us 10% of the mark based on our HCAHPS. Last, but not least, the efficiency, how long are patient's stay in hospitals compared to other hospitals. They put that together in the different composite percentages.

The scorecard that came to us looked like this, very busy, single page, handed out to us at the conference and not before. What is nice about this, and I won't go into it in any detail because it is in your package, is that it tells you where you are and then it tells you how you compare to the top performers in that area as well as what the group median is in those areas. It does give a brief synopsis under each of the categories as to what goes into that part of the mark. We are a five-star. I did take the liberty of comparing where we've been, how we've gotten there, and what we look like now.

I broke it out looking at our mortality, effectiveness, safety, equity, centeredness, and efficiency over the last five years. It's hard to go back any further than five years because the rankings have changed and what went into them changed. For instance, in 2011 they added in the efficiency metric. You can see that relative to mortality we have continuously gotten better. I will explain the 2012 numbers there in a minute.

We've also gotten much better around safety. The nine signifies that we are the ninth best out of all of the 104 hospitals in this consortium.

Mr. Jurgensen:

In the former column, I'm assuming that the numeric score for each one of these in that column has the potential to be a different hospital, right?

Dr. Moffatt-Bruce:

It does.

Mr. Jurgensen:

The math doesn't work to get to 769.

Dr. Moffatt-Bruce:

No it doesn't, you are right. You could be a top performer in mortality but a lower performer in another area. This signifies that in some areas we do really well and there are other areas that we continuously have improvements in.

The one here that I think is varied, in keeping with our current progress, is the patient centeredness. You see that we're 23rd, which is a continuous improvement over the last several years. That's the HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) scores and patient satisfaction. This shows an increasing trend. Our recent data this month shows that we had the highest performance this quarter than we have ever had in the history of collecting the HCAHPS data. That's reflective of more recent data.

The data that you see there in 2012 is reflective of having gone to an electronic medical record (EMR). EPIC was very challenging. Perhaps it was my own inability to understand the complex nature of deriving data from it, but we did not perform very well that year. Therefore, going from 32nd to 8th to 3rd speaks to a very large team effort that had to overcome and embrace an electronic medical record that was fairly challenging.

Dr. Gabbe:

That is really a reflection Susan, not that our quality and safety was not comparable to where it had been before, it was a problem of accessing the data from newly installed medical records.

Dr. Moffatt-Bruce:

Absolutely. We went seven months without being able to upload any data to UHC. In fact, I had to ask for a waiver from CMS (Centers for Medicare and Medicaid Services) because we couldn't submit our core measures data in that time frame. Once we embraced it and understood it, it has become a very powerful mechanism for us to query data on a timely basis.

Mr. Wexner:

Just curious, what does this link to? Does it link to recruiting medical students; does it link to executive education for other hospitals in the state or in the region?

Dr. Moffatt-Bruce:

That is a really good question. In fact, this morning, we had a meeting with the program directors for residencies. This is something we should share with our program directors and explain it to them so that it can become a fairly significant predictor of them coming to an academic medical center that is well ranked amongst their peers.

We also have used these opportunities to have a more collaborative interface. For instance, I have a call scheduled tomorrow night with Stanford. They want to know how we ranked in safety; how did we embrace the EMR, and how did we make it better. New York University reached out to us as well. I think this does give us some validity in the academic ventures.

Mr. Jurgensen:

Are those relationship-based inquiries? Do you have the ability to put names on numbers? For instance, in the second column, who's the best in each one of them?

Dr. Moffatt-Bruce:

It is interesting. When you go into the UHC database, you have to be a member, you can query mortality and behind it will tell you who the top ten performers are. If you query effectiveness, it can tell you the top ten. There is that granularity and transparency of the data. If you're struggling in safety, you can see who amongst your peers is doing really well. Then, actually, for each of the metrics, they'll tell you which one is doing best for error embolism, which one is doing best for DVT (deep vein thrombosis). There is that level of granularity.

I think that's the beauty of the UHC database. Dr. Drake, you're probably very familiar with it. It has evolved and every year they are bringing out more and more functionality in that. I applaud them for that.

President Drake:

It is a very useful thing and the granularity is very important because you can compare yourself in innumerable different factors and then look at those ones where you're lagging. The group was about 100 hospitals, 100 similar hospitals, but it's the 100 most prestigious and largest and most academic medical centers in the country. It's not 100 random hospitals out of the 6,000, it is 100 really focused places.

I would say that for years I've been using this data. You can focus on minute things and say how can we get better at this little aspect? What it does is continue to elevate every one's stair step moving forward.

It came together now almost 30 years ago, if I am remembering correctly. At the beginning, people were very worried about it because one was all of a sudden exposed to one's peers for how one was performing. It turned out to be a great motivator and a great guide to how to do the very best you can.

Les was actually asking who would see this on the outside. Who sees it on the inside are the people we work with every day all across the country. Every one is quite aware of that and it is well recognized that we're doing really great work here.

We talked about Ebola a little bit ago. Ebola is one of those things that makes a lot of headlines for a hopefully short period of time. If the daily work that we do on patients who don't have diseases that are worthy of being in the newspaper, that is why people go home today who wouldn't go home if we hadn't done a great job and these data reflect that.

Dr. Gabbe:

I met with 20 medical school applicants this morning. I loved talking to them about what we are doing in our teaching programs and I tell them, you don't want to go to medical school unless you are training in a place that has a fully integrated electronic medical record. Then, I added the quality and safety because you want to train with the people who know how to do it right. I could see amongst a lot of them, it was an "a-ha" moment, electronic medical records, I hadn't thought about that. Quality and safety. I think that really does influence the quality of our medical students that do come here.

Dr. Moffatt-Bruce:

Now we've integrated that training in their curriculum, it's been helpful.

Dr. Wadsworth:

Could you comment on the electronic medical record? Is that a uniform thing that people use or do you have choices in which ones you get and how often does it get updated?

Dr. Gabbe:

There are choices and we made a choice six or seven years ago with EPIC, which is the dominant record across the country.

Dr. Moffatt-Bruce:

Yes. Sixty percent of the market share is owned by EPIC currently.

Dr. Gabbe:

It is also being used by Nationwide Children's Hospital and Cleveland Clinic. It is updated regularly and we're always adding new modules for radiology, the emergency department, patient tracking, et cetera.

Dr. Moffatt-Bruce:

Absolutely. I think we have made over 800 adjustments to it over the last three years.

Mr. Wexner:

I would like to engage everybody around the table. I think about things in marketing terms and how linkages go and leverage. If I said, Ohio State to most people they'll say football. I could ask around this table and people would say football. You would probably say it in February and March as students, alums, loyals, or people that just know the university. When you say medicine at Ohio State, I would hope everybody says quality and safety.

Dr. Moffatt-Bruce:

I would hope as well.

Mr. Wexner:

That's how you build a reputation and those are easy to understand. Obviously, you have a reputation inside and professionally but for patients and other doctors in the region, when we talk about medicine, I'd like to just think, do people answer back quality and safety?

Dr. Moffatt-Bruce:

To ensure that and embrace that, we never say no to webinars. We say yes to every collaborative initiative that UHC or any other company puts out there.

Mr. Wexner:

I am saying something more specific. If we say Ohio State, people will say football. If you say football, they'll say beat Michigan, probably. They don't say Northwestern.

There's a rigor in this, when you say Ohio State to people or we say medicine, do people say quality and safety? Is that part of the reputation and a foundation of the brand? Do we say this on signs in the street, on people's paychecks, and on badges that they wear?

It is like the Nike swoosh. If I ask what is Nike's symbol, everybody says the swoosh. I think we have something really important that speaks to development, speaks to reputation, speaks to students, doctors, patients, and this differentiates us. That's quality and safety at a world class level.

This was new to me. We discussed it at the last meeting and it was like well, we're getting really good and we got better. I think that was the feeling in the room but how do we know that we are better? A lot of people say that they're better but we grade our own papers.

Dr. Moffatt-Bruce:

Absolutely.

President Drake:

Patient centeredness is a really important part of that as well. There is the internal and external part of it, but the horizontal part really is person to person. I am happy to see that moving forward. That is how we treat people and how they feel about it. I think those are very good things.

Equity is small on the points list but important for us to make sure we're doing what we should.

Dr. Moffatt-Bruce:

It is. When we drilled down, it's around core measures and they combine the race, socioeconomic, and gender. We had three failed cases of acute MI (myocardial infarction).

We get very few direct admits. We only had 219 and unfortunately 216 were positive cases. On three cases, we extended the time from 90 minutes to 91 minutes and that was a failed case. And unfortunately, those three patients had disparity in their gender and ethnicity.

President Drake:

What you said, I understand exactly, is very complicated. I know exactly what you mean.

Dr. Moffatt-Bruce:

They're very small numbers. There are 56 hospitals that all ranked 1st, so when you fail one point, you go to 57th. We're not proud of that number. We have reviewed it specifically and we will watch it every month to ensure that we don't end up there again.

I have in your package, and you can read that at your leisure, the comparison between the UHC and the *U.S. News and World Report* because that is often a question. It falls to concurrent data as compared to retrospective data. It speaks to all payer as compared to Medicare only in the *U.S. and World Report* and truly the UHC being more integrated into the Institute of Medicine as compared to reputational mortality and these administrative data. It's just two different systems that we have to manage to look for opportunities to get better but I did think that the comparison might be helpful going forward.

Dr. Wadsworth:

It seems this one is much more data driven.

Dr. Moffatt-Bruce:

This one is a validated data driven process, yes.

We do have one other good piece of news. The Joint Commission also ranks hospitals. This ranking system has been in place for about three years. There are thousands of hospitals that are accredited by The Joint Commission and we've ranked in their top 33%, which is the only recognition they give around the care that we provide to all payers for heart attack, heart failure, pneumonia, and our surgical care. We are very pleased to be able to announce that. That ends my report.

Mr. Steinour:

What about other practice areas? Cancer, for example.

Dr. Moffatt-Bruce:

There are different ways to compare those areas. The UHC does have cancer care within it. The Joint Commission, right now, is only looking at those four areas. They will be expanding. It's a fairly new ranking system and as they validate their model, I suspect in the next two years, they will expand it.

It's difficult to get data from that many hospitals which is why they've only started with these four which they can measure very succinctly amongst all hospitals accredited.

Mr. Wexner:

I don't know if you could, that list of the top 12, or the top 100 or whatever, if you have that, give it to everybody, maybe before we adjourn today. I think that's just a great reference to keep in front of us and keep pestering you and the other professions.

Dr. Moffatt-Bruce:

No problem.

Mr. Wexner:

Questions? Comments? That's great. Thank you.

We've heard the music now, or that was the words, you have the music? Pete.

Mr. Geier:

This is in your book. This is the consolidated financials for the first full quarter that ended in September and I will go through this in some detail. We have finished October, we have not closed the books on October, and we have a really good handle on volumes which continue to be strong. We do not have a sense of expenses but we'll close later this week but I think when we come back the next time and look at the next four months including October, these trends will continue. We had very strong admissions in October in surgical volume.

Looking through our volumes, admission numbers, we're very full. I think the physicians who are here would say that. New space probably can't come soon enough. The transfer center is very busy every day. We're actively working on getting patients in. All the hospitals are full and over on admissions, particularly University Hospital East and the James. As I mentioned, that trend has continued through October.

Surgical volume has been good. This is an area, that you remember when we had the budget meeting, we had a fair amount of concern on. We've been able to bring on new surgeons and Dr. Ellison may want to comment on this. On the inpatient side, the Ross and University Hospital have actually had very strong inpatient surgical volume. On the outpatient side, University Hospital and the James have been quite strong. When you add those all together, the inpatient and outpatient surgeries, we're up over last year about 2.2% and up over budget about 5.3%, continues the same mix of 60% outpatient surgery and 40% inpatient with strength in neurology, neurosurgery, and orthopedics.

Outpatient visits are really good across the board. We have not opened any new space. We'll open up the New Albany space early next year but again, we're seeing good growth at all of our outpatient sites. We're looking to put physicians in additional sites. We are about 2.8% over budget and I see that continuing.

We have two emergency departments, most people know, we have on in University Hospital East and we have one at the University Hospital on the main campus. University Hospital East is actually over budget on their emergency department visits. We're under a little bit here and for now we are watching that. We have opened some new space. We have some remodeled space coming onboard. We get backed up in the ED because of the bed situation. It is a little volatile in terms of tracking the actual ED volume. I think it's going to take a little bit of time, probably the next three to four months when all the facilities open and we get to a new normal on the emergency department. We are off a bit on budget and I think some of that is timing, but we're over last year.

You can see our adjusted admission growth is 4.3% on our revenue. I will talk a little bit about expenses. We discussed that at length last time in terms of some of the initiatives. If you drop down, our total expenses are virtually flat over the same period a year ago and that's a combination of efforts that have been ongoing and are going to continue. On the non-labor side, we've been involved in a very aggressive, what we call rapid re-pricing, around all of our suppliers, our services, around getting about a 15% discount. We've got a target to capture by the end of the year and the run rate is about $40 million. We think we have signed about 20 new deals. We have got a ways to go, but lots of work being done on the non-labor side, primarily supplies and services. This ties into the one issue we talked about last time, changing all of our payer terms to 45 days for supplies, 60 days for services, and we think that will impact our days cash by the end of the year and that's just getting rolled out as we speak.

On the labor side, we have three or four initiatives. First, with our shared services which are all of our support services. That is an effort where we set targets to reduce the labor expense 15% and all the leaders are working on that. On the variable staffing side, which are primarily in the hospitals themselves, we use a variable staffing model with nurses. It's a national one, actually a part of UHC. It's called Action O-I™ but it benchmarks against other comparable hospitals around the country in terms of clinical staffing. We have been, what we call, glide pathing, to run that at 50% nationally. We have historically been 65% to 70% and all the hospital executive directors are working on that. We meet every month to see where we are on that glide path. Those initiatives, along with some things we're looking at in the span of control across the medical center, between the colleges, the faculty group practice, the health system, particularly

in shared services, all that is really designed to try to pick up a run rate in salaries of about $60 million. Those two together on the expense side are initiatives to carve out about $100 million.

When we tack all of those together, you can see the gain from operations. All the hospitals and business units are on budget. They're over last year and everyone is contributing to that.

Moving down to the EBIDA margin, we're about 18%. Our budget is 15.2%. Days cash is at 77 days. That is up about 10 days. To translate that into dollars, that's $56 million in additional cash reserves from a year ago, September 30th which is about from 67 days to 77 days. With EBIDA and all the debt coming on, we have pretty much borrowed all the debt. I think we have about $20 million to $25 million more to finish out on the tower but then will be fully borrowed and all the debt from the university relative to the medical center expansion, with the margin and all the debt on, you can see our debt service coverage is right within target.

I would caution, we're off to a decent start, there's still the unknown of the new hospital, and we still have to get through that. I think I can probably speak for the team here, we feel good about where we are in terms of moving in, planning, but it's still an unknown and we may get some glitches and the numbers may move around a little bit. But, as I said, I think we're quietly confident. Mike, if you want to comment, you or Geoff, I think that's the big still to come to this story this year.

Dr. Caligiuri:

Absolutely. We are literally at 100% capacity with 20 to 30 patients waiting to get into the hospital every day. This couldn't have come any sooner so we're excited.

Dr. Gabbe:

As of 5:00am this morning, there are no empty beds in the James. Every bed was filled.

Mr. Geier:

I think that is probably true for every one of our hospitals at 5:00am in the morning, including University Hospital East.

Dr. Gabbe:

On the ED visits, while they're off budget a bit, the admissions from the ED, which is where 40% of our admissions come from, are on target.

Mr. Geier:

Yes and they're actually a higher percentage than they have been historically. They typically have been about 40% but I think they're closer to 43-45% of inpatient admissions that are coming through the emergency department, which is what we want in terms of the acuity.

Mr. Wexner:

How many days do you think we'll pick up in cash flow next year? I'm looking, you have roughly, 2.2 in and 2.2 out. Can you accelerate receivables and postpone payables?

Mr. Geier:

Receivables are about 48 days. We probably can do a little better there. We can probably push that.

Mr. Wexner:

To what?

Mr. Geier:

Well, 45 or 46 days I think, would be a really good industry number. The payables change that we've talked about right now, we've got calculated, when all of that is fully implemented, that should pick up between four to five days cash on hand, just making these changes, on how the payables are done on the 45 days and then the 60 days.

Mr. Wexner:

If I was just, swagging, we could pick up five or six days of cash between ins and outs?

Mr. Geier:

Possibly, yes.

Mr. Wexner:

And that five or six days is?

Mr. Geier:

$25-$30 million. That's expense per day. We have $5-$5.5 million expense per day right now. It will go up when the building goes up but it's probably $25-$30 million.

Mr. Wexner:

Not a fool's error and maybe a priority.

Mr. Geier:

No.

Mr. Wexner:

Great, thank you. Questions? Comments?

Mr. Price:

Pete, what is the length of stay?

Mr. Geier:

The length of stay has actually come down a bit. I think, Andy, you had the most recent data. It's still a work in progress.

Dr. Wadsworth:

Could you repeat the question?

Mr. Geier:

The question is about the length of stay, how long people are in the hospital.

Mr. Price:

When you talk about being full, you wonder what the length of stay is.

Mr. Geier:

It has an impact. Bringing that up, Andy will talk because we just updated it.

Dr. Thomas:

System wise, we're down about .06 days this year, just in the first two months of the year. University Hospital though, over the last 14 months is down a quarter of a day, which is a huge step forward. Essentially that means that one out of every four of our patients is going home a day earlier, which is a really big step forward for us.

The Ross and The James got hit with the two-day stay issue this time last year so their data for fiscal year 2014 was thrown off a little bit because one day stays, which used to be inpatient admissions, fell off the data. They are basically flat from last year. But University Hospital, which is the biggest part of the machine, is down another .11 days just in the first two months of this year.

Mr. Price:

How much in a way of revenues have we lost through Medicare readmission within that period of time?

Dr. Thomas:

For readmission of health?

Mr. Price:

Yes.

Dr. Thomas:

We actually had the lowest percent penalty that we've ever had. That was just announced last month.

Dr. Wadsworth:

What was the marginal value of that?

Dr. Moffatt-Bruce:

$340,000. Compared to the Columbus area, we are the lowest.

Mr. Steinour:

Pete, is there a threshold on the ED visits that would trigger an action because you are monitoring at this level?

Mr. Geier:

Yes. To that question, I think we all have a multi-factory issue going on and with respect to ED visits. I think when the ED is fully opened, there is some capacity. When it's fully open, which should happen at the beginning of next year, and then second when the hospitals are open so we have capacity, that's one of the things that happen when you get full, you go and divert. You tell people, don't bring your ambulances here, we're still going on and off divert. I think when we can finally get to the point of when

the ED is fully open and we're not going on divert. I think that would clearly be a trigger point that if we're not seeing that pick up, we'd really have to dive in and take a hard look at what is going on there.

President Drake:

I have a quick comment. My first time in the hospital was about 10:00pm last January when Andy and I were walking around just to look at things. One of the things I noticed was the occupancy rate, which was higher than an official occupancy rate would be. There were more patients that we were seeing than we could process effectively. Once we get that rate down to a reasonable level, the throughput improved dramatically and actually the patient experience improved. There are a whole lot of things there that ought to make this open up and do quite well when we have the new space.

Mr. Geier:

Yes, that's a good point. Not to prolong that discussion, but back to patient centeredness scores in UHC, because we get such a high percentage of our admissions through the emergency department, 45%, if they have a bad experience either waiting, long waits, and they get in, it's hard to course correct their satisfaction scores. One of the things we are looking at as a barometer of improvement is the improvement in the patient satisfaction scores particularly in University Hospital which gets such a high percentage through this ED. If it's a better ED experience and you're not down there boarding for 11 hours, that should translate into some better scores.

Mrs. Wexner:

Can you remind us again about how many new beds there are going to actually be?

Mr. Geier:

Steve always has that number right at the top of his head.

Dr. Gabbe:

In the emergency department?

Mrs. Wexner:

With the new hospital.

Dr. Gabbe:

276 single rooms, 30 designated James ICU beds, and 42 general critical care beds.

Mrs. Wexner:

As additional?

Mr. Geier:

As additional beds when it opens.

Mr. Wexner:

Thank you.

President Drake:

I want to say something just for a second. I should have done this, I was thinking earlier then I forgot, forgive me.

Mr. Chair, we should just pause for a second. That was an incredible half hour. I mean places all around the country, for their whole careers, will never have either one of those reports that they're able to share. I mean that is an incredible half hour reflecting, incredible success of this entire enterprise and we should just take a pause for a second. You can go on but that was just a grade A thought.

Ms. Hill-Callahan:

(Presentation)

Thank you for the opportunity to talk a little bit about our fundraising. I'm going to talk about where we fall within our peers, a history of our fundraising success over the past five years, and how that success is aligned directly with our budget and with our staff.

Each year we participate in the Association of American Medical Colleges survey. As we all know, AAMC is an organization which brings together best practices and government relations research and education and we participate, as I said, in a development survey each year. I will say to you this is not perfect data and as you look at the budget line, you will see that there are one or two anomalies in there but it is what we use for development benchmarking.

The good news, which I shared at the last board meeting, is that we moved up in the rankings in 2013. We moved from 28 to number 20. The gap, the distance, between 20, where we were, and number 10 is $75 million, which really shows the picture of how important principle gifts play in our fundraising success and also in our rankings.

Our budget dollars are within scope but these numbers do not tell the entire picture. They do not include the central services, for example, gift processing, gift planning, corporate and foundation, IT database support, from Mike Eicher's central team. Our endowment is drastically smaller, as you can see, from the top 10. That indicates that Mayo, Northwestern, and Stanford, have been raising money for an endowment for a lot longer time than we have and they've had compounded growth and great success there.

I think it's important to see where we rank within our publics. We're number six, which is right in the middle of the pack. We are close to Cleveland Clinic, which in AAMC terms, is a public. That's how they're represented in the survey. For the first time, we actually surpassed University of Pittsburgh, which is really exciting.

Now that we see where we stack up against our peers, I want to take a closer look at the medical centers' past five years of giving.

We count money in two conventions. The red line is new fundraising activities, cash and pledges that come in the door each fiscal year. The grey line is cash, which is cash which comes in, makes sense. Our growth has been pretty significant from 2010 to 2014. We had a large jump in 2013, closing three $5 million plus gifts. We were able to stay stable in 2014 without those three $5 million plus gifts. What that illustrates to me and hopefully to all of you is that we were able to significantly build the base of support in fiscal year 2014.

Our fundraising has grown over the past years as has our budget. I would like to remind you again, when you look at the growth between fiscal years 2010, 2011, 2012, 2013, and 2014, that does not take into account any of the central service money that we received from Mike Eicher's shop at the university. Our cost per dollar raised in 2014 was about seven cents. That's really in the middle. Some are 2%, some are 12-13%. We have approximately 72 staff and of the 72 staff we have 26 major gift officers.

This gives a breakdown of historic fundraising for the programs. You'll note that the James has had significant increase since 2010. That is in large part to an investment in staff and in more major gift staff.

The Wexner Medical Center has increased. We actually had a historic year for the neurosciences. Our goal was $10 million and we ended the fiscal year in 2014 at $12.6 million, which is great. You'll notice that there has been a decrease in the College of Medicine and that is attributed to the transition of many deans. We've had three deans in the past four years and that certainly impacts our fundraising. I will tell you though that in fiscal year 2014 we acquired 200 more alums which was really good news, and we were able to build the base in that area.

Of the money raised by cancer, Pelotonia brings in somewhere between, depending upon the year, 20% to 30% of the money. Any questions?

Mrs. Wexner:

How does the FTE number look against your peers?

Ms. Hill-Callahan:

Against our peers, for the amount of money that we're raising, it's about average. As we think about increasing and raising more money in the next couple of fiscal years, we need to look at our FTE count.

Mrs. Wexner:

I assume this also includes other spends, right?

Ms. Hill-Callahan:

It does.

Mrs. Wexner:

We don't know if our bulk is in people, actual services, or advertising, right?

Ms. Hill-Callahan:

When we look at our budget in 2014, personnel is three-quarters of our budget.

Mr. Wexner:

I like to think about things in terms of bold goals, rather than increments. Roughly, if we were as good at development as we are at safety, we'd be raising $250 million a year.

Ms. Hill-Callahan:

That's right.

Mr. Wexner:

We would be double?

Ms. Hill-Callahan:

Right.

Mr. Wexner:

What I'm thinking about is the people in white coats and some others who can actually practice medicine, I think there are people around the room that can practice development, that are good fundraisers and I'd like to think about how we double the number in three or five year period. What would somebody else have done that we're not doing?

Ms. Hill- Callahan:

We would be investing in our principle gift program. That is the $5 million plus gifts and we're in the process of doing that. We've actually just hired an individual who will be working with our major gift staff.

Mr. Wexner:

No, that's how. I'm just thinking about the what. The *what* is, we double.

If we doubled, would the James double, would the Heart Hospital triple, what would it look like in the end state, just the goal? Then we can start figuring out staff or no staff or, skywriting or newspaper adds.

Ms. Hill-Callahan:

Understood. The Wexner Medical Center fundraising, that's Heart, Neurosciences, Diabetes, we need to grow those fundraising programs.

Mr. Wexner:

When you come back to the next meeting you could be more precise. Just order a magnitude, should we be in the medical center, minus the James, be raising $100 million or $150 million a year, and saying, that's what we should be in a three or five year period, not limited by we're starting at nil or wherever we are.

Ms. Hill-Callahan:

The James should be raising, and we are planning to raise, $100 million a year and sustained. The neurosciences should be raising $15-25 million a year. Heart, which we raised last fiscal year $7.6 million, should be in $10-15-20 million range.

Mr. Wexner:

Neurosciences, let's say $25 million. I am making a note. The James, $100 million. Any other categories?

Ms. Hill-Callahan:

Heart, $15-20 million a year.

Mr. Wexner:

Let's say both $25 million. Bold goals stir people's minds.

Ms. Hill-Callahan:

Sports Medicine is $10 million.

Diabetes, we have a great opportunity in diabetes. Integrative medicine is another great opportunity.

Mr. Wexner:

How much?

Ms. Hill-Callahan:

Integrative, I would say, $5 million. Diabetes should be $10 million. That's a huge opportunity for us.

Mr. Wexner:

Academics? Medical schools? Things like that.

Ms. Hill-Callahan:

The Medical School, with a new dean and vision moving forward, should be in $15-20 million range.

President Drake:

Yes or $25 million range. That's a place where it would actually make a real difference. I think that's something that is an actual, needs to be a priority.

Mr. Wexner:

That is about $200 million. We could polish that up a little bit. I think that we can get engaged in that in support of the school because I can't give insulin shots, but I can think about raising money for diabetes. I think the board has a real role in this, Patty.

One of the things that I pushed very hard. Some of the Trustees will note this, Dr. Drake, is strong opinion. I can't make the decisions, but if you're going to be on the board of the university or any sport's board, and I know that the James Board adopted this, you have to give or get money and the board has to decide what is that minimum. If fundraising and development isn't important to the board, then it's not important to the institution. I have emphasized the give or get. The get part might be, you really make a conscious effort because not everybody could give $5 million or $10 million or whatever the minimum is but I think we shoulder into this as a board and set an example for all the institutions, we'll get there and we'll get there pretty damn fast.

To me, that's a big part of the how. What are the goals and is the board committed? If the board is committed, my guess is the staff, administration, and the general community will be committed. If we're not committed, then we have to look ourselves in the mirror and just recognize it, that it is important, but we really don't give a damn. Commercial for us really giving a damn.

I think we have a model for this at the James Board. Mike, you could remind me, what is the minimum? What do they take in the James Board as a minimum to give or get?

Dr. Caligiuri:

The entrance fee, as give, is $100,000 and the annual give or get is $10,000.

Mr. Wexner:

This is just a thought starter that's within us. Part of us has said that. When they took that decision, I wasn't on the board but understanding it from civilian leadership that was a game changer.

Dr. Caligiuri:

Right and there was quite a bit of change on the board. Those who needed to come off and a number of people that wanted to come on.

Mr. Wexner:

Whether it's the head of neuro, the head of diabetes, and the head of integrative medicine. I encourage you to start thinking about this and building a constituent group. It is there to be done.

President Drake:

I need to say for clarity that when we speak of the medical school, one of the things that philanthropy can help with is relieving the debt burden on our graduates. That helps their practice location and practice choice which are very important for the community over time, to flesh that out a bit.

Mr. Wexner:

Again, just the discussion we had today, wonderful reputation in safety and patient care, significant improvement in days cash over a five year period, managing cash flow and being smart about expenditures and revenues. 100 days is not out of sight with performance and managing cash and development, which should be a big part of what we do in terms of annual fundraising of the magnitude of $200-250 million.

Just between those things, it changes dramatically in terms of that we can do. I think this impacts students, doctors, and the reputation of the whole university. Questions? Comments?

Mr. Price:

Just a quick question for clarification of the James. Is it $100,000 per year or $100,000 entry one time and then subsequently thereafter?

Dr. Caliguri:

$10,000. It is not give and get, it is give.

Ms. Krueger:

A gift is beyond that.

Mr. Price:

How many board members do you have?

Dr. Caligiuri:

About 40.

I had a quick question, Patty. In these tables, are we always comparing the same metrics to what we call as a gift, as what Mayo calls as a gift, or is that all established in these?

Ms. Hill-Callahan:

Yes.

Dr. Caligiuri:

We're all apples to apples?

Ms. Hill-Callahan:

Yes.

Mr. Steinour:

Patty, could you comment on the UPMC (University of Pittsburgh Medical Center), the very sizable endowment at $4.5 billion, relative to the annual fundraise.

Ms. Hill-Callahan:

Right. They have clearly been raising for their endowment for a long time.

Mr. Wexner:

It has been for 100 years. In thinking about this for the university, it pays to advertise. We are unique, Ohio State University, is unique and it has probably the largest number of living alums.

We are also unique in terms of loyals. Abigail is not an alum and she is a loyal, our kids are loyals, and they're not alums. The loyal base that are attached to the university and its medical center. The reach in probably a four or five state area, within a two hour drive, there's about 15 million people and I suspect that 80% of them are Ohio State loyal, however they got to be there. We're in their awareness. From a development point of view, we're uniquely positioned for annual campaigns, whether it's for law or medicine, business, the whole university, the medical center. It is unique. It is the characteristics of what we have.

You think we have all these alums, and then in medicine specifically, about half of the medical professionals in Ohio, more than half, have touched the Ohio State University, as undergraduate or graduate students. You have a base of people that are connected to the university, specifically connected to the medical center because they're medical professionals. Capitalizing on those things, for reputation, for annual funds. If your university was founded 300 years ago, like Harvard, you have a certain set of advantages, but it's not strength of numbers. We have numbers on our side, whether its $100 contributions or $1,000 contributions, the university, again some of the Trustees have heard this, if it was just good at annual fundraising would raise half a billion dollars a year just on the numbers.

You look at average donations, more than half of money that the university raises should come from medicine. The university can't be successful in its campaigning if medicine isn't, and the number is about half a billion. We've looked at this, Gil Cloyd has looked at it for five or seven years, this is a very big deal for the whole institution. When I link that back to marketing about patient care and safety and how we care about Ebola, how we raise the awareness for professionals, civilians, patients, doctors, they really feel justifiably good about us and they should.

That's why I am pushing on the big number because I've looked at the big number and I know what the big number is and there are probably trustees that can speak to that. Jeff has probably looked at it for a few years. Average contribution, average number of contributors to the size of the base of alums or general population. It's the lowest hanging fruit and we deserve to have a basket full.

Mr. Fischer:

That raises another point that I wanted to ask is about geographic region of fundraising, if you had to describe it. I think one of the things that stands out in my mind about OSU is that, at least of the undergrads I've heard it said many times, they have students from over 100 countries coming to the

university. Not sure how that applies to the medical side of the equation but when I travel around the world and I see all these wonderfully expensive, big, nice hospitals around the world with affiliations back in the U.S. to other medical institutions, I'm wondering if you had to describe our fundraising geographically, are we concentric to the three or four states around us or do we reach around the world to the students that come from around the world to here through their governments, through their philanthropic initiatives?

Ms. Hill-Callahan:

I can speak to the grateful patient pool and maybe Dr. Gabbe you can speak to the College of Medicine. We are primarily in the three state area except for some of our cancer doctors who pull nationally that have expertise and are number one in their field. But, by and large, when you think about travel of our major gift officers, they are travelling around Ohio and then they are going to Florida in the winter. We don't in terms of grateful patients, go to California and New York.

Mr. Fischer:

To Les' point about untapped areas, one of the key differentiators is geographic reach around the globe of Ohio State's student body. And again, I do not know how that applies to the medical field but we ought to think outside those three or four states.

Dr. Gabbe:

It really isn't as applicable. One third of our medical students come from out of state, one third are from Ohio, and one third are from beyond. Then of our residents, about two-thirds come from out-of-state. That is also a group we have an opportunity to work with.

I'm sure many of us have been around the country meeting with alums of the medical school or residency programs, I think that is an opportunity for us that we probably haven't engaged yet.

Mr. Wexner:

I want to move along because we want to hear from Dr. Rezai, but I want to keep this on the agenda because it's such a big issue. Having thought about it, it's like trying to raise money for medical students and alums is a good thing to do but not really very productive. The notion of grateful patients. Say you got 15 million maybe 5 million donors in a two-hour drive. The things that we can do capping on our resources as a thought starter shared with Patty comes to mind.

I've recruited Chris Spielman and Urban Meyer. I have. I offered to get them a grey bus and they've agreed that if somebody would ask and organize, they'll go around the state, talking about Ohio State and football to raise money for the medical center.

You want to build a constituent base. I'd like to get thinking about what simple things that we can do with the people we have and the reputation we have. Now if we put Dr. Drake on the bus, you know and Urban Meyer and somebody else, we had in market such high awareness and so much potential. Chris and Urban said to me that they would draw 300 to 500 people if they went to Canton to talk about the James, for example. They might draw 300 or 500 people if they just talked about each other.

We have an army of people that are local, legitimate celebrities that we want on our team. That notion of us thinking about development, I'd try to stimulate that discussion and again, if we could raise another $100 million a year, which I don't think it's that hard, because the capacity is there just in numbers. Think about the Pelotonia, it didn't exist and it's producing $22-24 million. You have all of those donors, in some ways, who have become Ohio State loyals and didn't even know they were but they're riding, they're contributing, they're baking cakes, they're washing cars, all this stuff that they're doing, standing by the road, and they have this warm and wonderful feeling about the institution.

Let me push off of this and not squeeze your time, Dr. Rezai.

Dr. Rezai:

(Presentation)

Thank you very much for the opportunity to present the Neurological Institute program.

Neurosciences is emerging rapidly as one of the major frontiers in medicine. There are more and 1,000 undergraduates here with majors in neuroscience and it is very popular across the country. The Nobel Prize was awarded this year for the discovery of the brain GPS system and there is a lot of activity going on, internationally, in the neuroscience domain.

Fundamentally, neurosciences is about conditions that are affecting all of us. Alzheimer's, for example, affects nearly six million people in the U.S. and the numbers are going to triple. The baby boomers, as they get older, by the time they are 75, there is a 20-25% chance that you will have dementia. Traumatic brain injury occurs, concussions and TBI (traumatic brain injury), every 15 seconds in the U.S. Every 40 seconds in the U.S., somebody gets a stroke, and every four minutes, someone dies of a stroke. One in 55 individuals have autism.

There are a number of areas that basically result in the 1 billion people worldwide having neurological disorders and that's where the opportunity for us is here at the Wexner Medical Center.

Worldwide, there's been $4 billion in new funding for brain research, including President Obama's initiatives, Brain Canada, Israeli government, and the Human Brain Project of the European Union. Fundamentally they are trying to map the human brain the same way that the human genome was mapped a long time ago. That will lead to new discoveries here.

Our current state. Nino (Antonio) Chiocca stated this about eight years ago and now is at Harvard and I've been doing this for the past two and a half years. Currently we have 180,000 patient visits each year, more than 3,000 surgical procedures, and we have 175 physicians and scientists in the Departments of Neuroscience, Neurology, Neurosurgery, Physical Medicine and Rehabilitation, and Behavioral Health and Psychiatry across the 10 ambulatory locations and the five inpatient locations. Our team performs 250 annual clinical trials and 170 grants and we train over 110 individuals.

A lot of activity is going on with national recognition: Dr. Scharre developed the SAGE (Self-Administered Gerocognitive Examination) test that was downloaded here at the medical center by over 800,000 people; the neurobridge collaboration with Battelle; we were the first in the U.S. to perform brain implant for Alzheimer's; and the research and collaboration with Air Force Neurogaming for rehabilitation for stroke; and ALS (Amyotrophic Lateral Sclerosis) collaboration with Nationwide, looking at patients' cell cultures.

There is a lot of activity and fundamentally, we've had a significant increase in people reach worldwide with neuroscience stories. This is from our media relations, 3.6 billion people saw neuroscience stories and three of the five top stories in history of the medical center were neuroscience related in the past year. There is a lot of interest in neurosciences worldwide.

We're working on a new paradigm to seize the opportunity for the future and owning the neurosciences here at the medical center. We've been working together, to create a comprehensive, integrative patient-centric approach and research and innovation that utilizes the academic departments in the College of Medicine, but also across the entire university, working with various colleges. We have our clinical enterprise and the research enterprise that are linked together to multidisciplinary patients centric centers.

Let me take the next few minutes to talk about the center from neurorestoration and the neurotechnology and innovation center, just to give you an example of one of these elements that we've developed.

Neurorestoration is a new paradigm for the treatment and care of those with neurological disorders and its implantable and non-implantable external modulation devices to improve quality of life and restore function. Pacemakers, the heart cardiac frontier, for 50 years was started in the 1950s and 60s with the development of the heart pacemaker in Buffalo and with Medtronic, with Earl Bachin, that really revolutionized millions of patients, their care with cardiac disorders as well as the development of heart surgery. Neuro is about 50 years behind and right now it is very rapidly, exponentially, growing. What started the heart, now there is neurorestoration, this is an example of all of the clinical applications going on worldwide from autism to urinary incontinence using neurostimulation.

What's happening is that we're learning more and in the past 10 to 20 years, we're understanding the neuroscience. What's going on the brain underlying Parkinson's, what's going on in the brain underlying Alzheimer's, chronic pain, traumatic brain injury and concussion, and that's allowing us to have new ways of detecting, hopefully preventing, and managing these patients suffering from these conditions.

(Audio/Video)

Just to give an example of Parkinson's. This is a recording of the brain from one of our patients, this is a normal brain recording and this is normal neuro activity with the brain cells talking to each other with a little tiny microphone that we put in the brain and listen to brain activity. Here's a normal brain and what it sounds like. That's not Morse code but that is neurons talking to each other.

Here's a Parkinson's brain. That's a lot of chaos, noise in the brain, thus resulting in Parkinson's symptoms and medications and pacemakers block this chaos and restore function.

What's going on, we're learning much more about brain network or circuit dysfunction. What goes on in depression, we can pinpoint areas in the brain. What goes on in autism?

Here's an example of an alcoholic patient versus a normal control. There is a deep part of the brain that's fundamentally on fire, resulting in the drive, the addiction, whether it's addiction for alcohol, drugs, or even obesity, same area. We're able to pinpoint these areas for schizophrenia activities, PTSD (Posttraumatic Stress Disorder), and a whole host of conditions. This is now why there's really a significant transformation occurring in the world of neurosciences. We're understanding what's going on in our brains.

Brain pacemakers, this is our area of specialty here with a 30 year safety track record. This is one of our patients from Cleveland, when I was at Cleveland Clinic. You can see the shaking of the arm, rigidity, stiffness, very disabled, the pacemaker is off. When the pacemaker is turned on, the tremor goes away, the chaos in the brain stops, improvements in the rigidity, stiffness, and is able to walk better. This is a standard example of a patient with Parkinson's disease.

What happens in other areas? This is another condition called dystonia and Parkinson's and in this case we're activating the brain pacemaker. Here's one of our colleagues turning it on.

Effects are immediate, blocking the signals in the brain and improving function and what happens is the signals going to the brain block the chaos. This is now FDA approved in the U.S. for tremors, Parkinson's, dystonia, obsessive compulsive disorder, and epilepsy. We started doing these when I was at New York University and Cleveland Clinic for 10 years.

Implant procedures, when I was in Sweden, it took 18 hours to do one side of the brain. This morning we did a patient in an hour and a half, up from Chicago. The patient is going to go home tomorrow morning. It's computerized, micro robots deliver the brain chip into different parts of the brain to help function.

Here is an example of patients with severe dystonia that affects the pediatric population. All the muscles are contracting without control. It can be very significantly disabling for this child and young individuals. It effects 300,000 people. Patients take medications. He's very disabled. During surgery, with an implant, the brain is rewired with these implants and restores in the function whether it's rigidity, stiffness, and

disability. There are numerous examples. This is standard of care that we do. Taking patients with disabilities from wheelchairs to make them walk better and we're among the leaders in the world at the Ohio State University Wexner Medical Center.

Other areas that we're doing and this is the innovation that is so important. As you mention, quality, safety, absolutely critical, innovation is what's going to help put us on the map further. We've been doing trials for traumatic brain injury with improvements of function. Our Alzheimer's patient, the second patient, has a slowing down progression of Alzheimer's. We've done trials for obesity with the patients losing 60 pounds. Brain computer interface for quadriplegics. Tourette syndrome, addictions, PTSD, and autism, these are all Ohio State University unique innovative clinical trials that are linked to development technologies, and schizophrenia, these are all plans for the university.

Brain machine interface, this area is very rapidly growing with microchips implanted in the brain, and in the very near future under your skin that detect your thoughts and link it to a computer on an external device. This is our collaboration with Battelle for two years with this FDA trial with Neurobridge that allows it to detect the brain activity, decode it, recode it, and link it to an external environment. This is an example of brain recordings from this individuals who is a quadriplegic and the results that you have seen before by thinking you can move your hand, you can pick up a spoon, and these are the developments that we are pioneering here at Ohio State with our colleagues in engineering across the university.

Shifting gears just for the last two or three minutes to the OSU body organ stimulation program. This is a very exciting area. We're working in the neurosciences with all different disciplines. All your body organs have nerves that control your heart, your lungs, and all your organs. This is one of our first patients when I was at Cleveland Clinic. This patient has severe migraines. Migraines affect 37 million people in the U.S. As she is suffering from her migraines, we have a needle in the cheek outside the brain blocking off a pain node and as you turn it on, she relaxes, the pain goes from 10 out of 10 to five out of 10 within seconds and then in two minutes, the pain is gone. That's the innovation that allowed us to do a randomized controlled trials. Then we said, what do we do next?

Through technology development, we developed this micro dental implant that is put on by oral surgeons and ENT surgeons that gets activated with your cell phone. You use your cellphone to turn on your implant above your first molar to stop your headaches. 70% of the time you can stop your headaches within 10 minutes on your cell phone. That is technology that's being developed further at Ohio State for other applications.

Another area, obstructive sleep apnea, published in the *New England Journal of Medicine*. Here is a patient with sleep apnea and this is the patient with the therapy on here and you can see what happens with the stimulator that activates the nerve under your jawbone, moves the tongue and you get airflow going. This is a technology that we're developing multiple levels to be used for those suffering from obstructive sleep apnea.

This is what we're doing. Headaches, or ENT's and oral surgery colleagues, autism, working with Nationwide, Nisonger, ADHD, sleep apnea, heart failure, hypertension, and asthma. We are looking at irritable bowel syndrome, urinary incontinence and pre-term labor. To stop the pre-term labor is a major cause of morbidity. The uterus has pacemaker cells that you can stop with putting an electrode or a wire outside. External stimulation is being used to treat attention, enhance learning, improve memory and language functions, and it now being used externally without an implant to treat stroke, depression, autism, and many other areas. We're doing a lot of research and development in this area.

With the Air Force lab, we have a major collaboration going on to develop sensors in the same way that they have developed the quantified warrior. We're looking at multiple activities of inflammation, stress, cardiac cycle, and sleep disorders. We're going to apply that for our patients, our athletes, and our population and looking at overall population health, performance health and patients across the spectrum. This is a very large undertaking with collaborations going on.

Our technology portfolio involves microstem platforms, external neurostimulation technology sensors, monitors, and analytics for population to be used globally and surgical and procedural tools and that's linked to our $160 million funded initiative over the next four years. $21 million from State of Ohio and $140 million from these collaboratives from across, including East and West coast, blue chips to make Ohio a neurotechnology hub and develop these innovations, link it to products for patients. That comes back to the university with new sources of revenue from technology commercialization.

We have a dedicated team of world class experts here and a unique opportunity to push forward the neuroscience frontier here and it's about improving quality of life, developing innovations, and offering hope for the 50 million in the U.S., and a billion worldwide, suffering from neurological disorders. Thank you.

Mr. Wexner:

Wonderful. Questions? Comments?

Dr. Wadsworth:

I do have a comment. I was able to visit with Dr. Rezai several weeks ago. The only thing that is more touching than seeing a video of somebody undergoing treatment is actually meeting them undergoing treatment. We had the privilege of doing that. I came away from the visit with a whole new vision and understanding of what neuroscience means. I think you've captured a lot of it. When people talk about studying the brain and it links to so many areas, I did not have a full appreciation of the scope of this work. It's very impressive.

Dr. Rezai:

We have a great opportunity here. We can talk about in the next session.

Mr. Wexner:

That's marvelous. I think we're at the point in this meeting that we could adjourn to an executive session. Ms. Link, do you want to call the role?

Upon motion of Ms. Krueger, seconded by Dr. Wadsworth, the Wexner Medical Center Board recessed into *executive session by unanimous roll call vote, cast by board members Mr. Chatas, Dr. Gabbe, President Drake, Dr. Wadsworth, Mr. Wolfe, Mr. Steinour, Mr. Fischer, Mr. Price, Mrs. Wexner, Ms. Krueger, Mr. Jurgensen, Dr. Reed, and Mr. Wexner.

Ms. Link:

Motion carries, Mr. Chairman.

Attest:

Leslie H. Wexner Chairman	Heather A. Link Associate Secretary

**The Wexner Medical Center Board recessed into executive session to discuss business sensitive trade secret matters required to be kept confidential under federal and state statutes and to discuss personnel matters regarding the appointment, employment, and compensation of public officials.*