SPHEX FLEX TIME—JOE'S SUMMARY

Medical students and young physicians want more flexible hours. Long hours resulting in tired physicians in training might endanger patient safety. What changes have occurred in medical school education and post graduate resident training to address this? What have been the results?

Two dates relate to the greatest effects on training—June 1910 and March 4, 1984

The Flexner report looked at the deplorable state of medical training and produced guidelines for medical school programs (see handout). The talk looks at the Flexner-influenced training prior to 1984 and notes the interrelated factors of responsibility, authority, and ownership.

The Libby Zion case in 1984 was the catalyst for restricted hours for physicians in training as well as increased involvement of senior attending physicians with the intent for increased patient safety and improved quality of life for the med students and post-graduate trainees (interns and residents). The ACGME (Accreditation Council for Graduate Medical Education) has required these restrictions for accreditation of training programs. A chart in the handout shows how this has affected the various components of medical training and how restrictions have evolved to the current 2011 revision.

The results of these changes are mixed from the perspective of med students; post grad trainees, academic teaching physicians, and practicing physicians (with the contention that we physicians practice as we are trained).

How these changes relate locally are discussed and the implications for the challenges of our local Liberty U. College of Osteopathic Medicine are considered. They will certainly be subject to the ACGME restrictions. Will their program with Centra follow Flexner principles? Should they?

We conclude with the case of an excellent young physician who has experienced the entire effect of changes in training as a med student, intern, resident, fellow, and finally as attending staff at the academic level. She terminates her academic position because she needs more flex time.

Joe's copy

SPHEX FLEX TIME

By Jeff Wilson, MD

Daughter Melissa and Amy are Facebook friends. After a stellar undergraduate performance at Middlebury College in Vermont, Amy attended Princeton Seminary, married a fellow seminary student and started a family. Her father is a med school classmate, a cardiologist. Amy is brilliant and when she decided to become a doctor, she completed the pre-med science requirements in less than 2 years and was accepted at Case Western Med School. Her Facebook communication to Melissa explained that she really wanted to do primary care medicine, probably as a Family Practice physician—really be a doctor for the entire family. However, with 2 children and duties of a housewife, minister's wife, and associate minister's responsibilities, she felt that she wouldn't want any night, holiday, or weekend call. An 8:00 AM to 5:00 PM, 4 ½- to 5 days a week family practice would give her the flexible hours as a physician, minister, mother, and housewife. Not exactly what Marcus Welby idealized as family practice. Amy dropped out of med school the first year.

There are two important dates related to medical training: June 1910 and March 4, 1984. The Flexner Report made public in June 1910 was the work of Abraham Flexner. From Jan 1909 till April 1910 he visited and reported on 155 med schools in the U.S. and Canada. What sort of physician was Flexner? None. He was an educator commissioned by the Carnegie Foundation. He felt that only 31 of the 155 schools visited should remain open. Johns Hopkins (where he earned his bachelor's degree in Classics) was felt to be the gold standard for medical school education—probably still is according to yearly med school rankings (although this might change due to a technological glitch this year with their med school acceptance process in which 300 students were mistakenly sent acceptances for the 100 student first year class places).

Key findings of his report (see handout) were the following: the system at that time resulted in the overproduction of uneducated and ill-trained medical practitioners with "absolute disregard for public welfare and without any serious thought of the interests of the public." There were 5 x's as many U.S. physicians in proportion to population than European nations such as Germany. The oversupply was due to commercial schools whose mission was profit—diploma mills. The hospital medical school needed to be under complete educational control. Trustees of hospitals should open hospital wards to teaching. The universities must secure sufficient funds to employ teachers dedicated to clinical science. Med schools needed to be properly outfitted, equipped, and linked to first rate teaching hospitals. Students admitted needed to have the highest order of qualifications. Research and original investigation "untrammeled by near reference to practical ends, will go on in every properly organized medical school; its critical method will dominate all teaching". Physicians have a social contract: helping others and prevention of disease in the population rather than merely curing the individual. Refs: Markel,H "Abraham Flexner and His Remarkable Report on Medical Education" JAMA 3/3/10; 888. Mitka, M "The Flexner Report at the Century Mark: A Wake-Up Call for Reforming Medical Education" JAMA 4/21/10, 1465.

Duke University School of Medicine 1968-1979. During the time I attended med school and completed post graduate medical education (internship, resident training, and rheumatology fellowship) the Flexner report was a major influence. One Duke Med School innovation was the combination of the first

two basic science years into one year. This idea evolved partly from the experience of the first dean of Duke Med School—Dean Wilburt C. Davison. He assumed the reigns of the new med school in the fall of 1927 recruited from the pediatrics department of Johns Hopkins (Flexner's favorite school). Davison was awarded a Rhodes Scholarship after his Princeton undergraduate years and went to begin medical studies at Oxford. He arranged his schedule to complete the usual 2 year basic science curriculum in one year. He had to receive permission from Sir William Osler, Dean of the Medical School and the godfather of medicine in the U.S. and England (Osler was the Dean of Johns Hopkins Medical School from 1889 thru 1905 during which time he published the preeminent book of medicine The Principles and Practice of Medicine). Attending the arranged appointment at Osler's home, Davison was given permission. Osler introduced Davison to his wife as "...a new American colt who is wrecking a medical school tradition."

The problem with the "new curriculum" was asking each professor to condense his material in half. It was impossible and, instead, 3/4ths of their essential material was crammed into half the time. I would ask our SPHEX academics how you would react being told to cut your teaching material in half; just teach the essentials—the really important part of your life's work. The purpose was to allow more elective time in the 3rd and 4th years to do research or pursue more specialized areas of practice. How did it work? Apparently fairly well if we look at the yearly ratings of med schools and hospitals each year in U.S. News and World Report. But I can speak most specifically about training in internal medicine influenced by Dr. Eugene Stead, Jr.

Medicine was considered the hardest, most demanding 2nd year rotation for the medical student (other rotations were psychiatry, OB-GYN, pediatrics, and surgery). Even as a 2nd year novice health care provider you were taught the connections of authority, responsibility, and ownership. For the first 3 weeks of the rotation the medical student took 2 patients a week, then 3 patients a week for the final 4 weeks. The day or night your patient was admitted, you had to have the results of a chemistry screen (run by the lab), a chest xray (done by radiology), and a blood count with Hematocrit, white blood count, blood film, EKG, stool for occult blood, and urinalysis done by yourself—all recorded and ready for the resident's morning report the next day to the Chairman of the Department of Medicine. Special procedures such as spinal taps, blood cultures, IV's, thoracenteses (drawing fluid out of the chest) were all the intern or med student's responsibility. Complicated procedures were taught on a "see one; do one; teach one" method. The infamous 5 days out of 7 call schedule applied to students as well as housestaff (interns and residents). For better or worse, this was your patient. You were responsible for knowing all the test results and details of treatment and the patient's course during the hospitalization. Recognizing the medical student or intern's responsibility, authority was achieved by only following orders written by the medical student or intern. If a medicine, procedure or test was to be ordered, the primary individual responsible for the patient would know it. A consultant could not order a test or treatment until he justified the need for diagnostic test or treatment with the student or intern—a great teaching method. Authority was earned by taking responsibility and you experienced ownership because no one knew that patient better than you. You were truly your patient's advocate.

The day started with work rounds at 7:00 AM. The ward resident saw each intern's patients being updated by the intern or medical student on the particular patient's test results or treatment response.

The ward resident was a junior assistant resident—one year removed from his internship. While he was a check and balance for the intern or medical student's care plans, remember, he could not directly write orders, he had to teach the primary care giver what needed to be done. Between 8:00 AM and 10:00 AM we prepared for teaching rounds. This involved tidying up the doctors' office and assuring relevant xrays and clinical information were present on the patients to be presented. Chairs were arranged in a circle or around a central work table where we hand wrote our notes and exchanged ideas facing each other. The student or intern made the formal presentation to the attending physician. Two of the senior staff attending physicians were assigned to each ward, alternating days Monday thru Saturday with no teaching rounds on Sunday—only work rounds for the ward staff. The intern or student (if the patient had an assigned student) would present from memory the history and physical exam at the patient's bedside while the attending physician reviewed the chart and examined the patient for pertinent physical findings. After the presentation the doctors returned to the doctors' office, discussed the patient, and the attending wrote a note on the patient. Following the 10:00 to 12:00 teaching rounds, "Noon Conference" was held. Each different division in medicine would present: Cardiology one day, Gastroenterology, Neurology, Dermatology, Rheumatology, Pulmonary, Hematology/Oncology, Nephrology—all taking turns presenting interesting cases on subsequent days. This was excellent preparation for internal medicine boards later. A quick lunch followed noon conference and you returned to the ward. Scheduled admissions usually arrived in the afternoon and on into the evening with emergency admissions any time. Because you were going to be there 5 nights out of 7, as a student or house officer you felt no rush in your work schedule such that you would skip these excellent learning opportunities. Another unique learning opportunity was called "Liver Rounds" and I will ask my wife to comment on these. These were held from 5:00 PM till 7:00 PM each Friday. The house staff was treated to beer, chips, and pretzels while each Senior Resident presented a topic of his choice. This combined collegiality with excellent learning. I still have a copy of an excellent handout on Sarcoidosis by Dr. Jeff Crawford as well as my presentation on Myoglobinuria from 1976.

Today the doctors' office is very different. Like our hospital wards, the doctors have their computer stations, and the doctors face away from each other interacting with their EMR (electronic medical record). Does that happen now in your visit to the doctor? One friend told me that during his office visit, his doctor only looked at the EMR as he documented elements of history and never even touched the patient for an examination.

Several years ago at out 35th med school reunion I was asked to present a 3 minute talk on an aspect of our medical training that was especially meaningful to me. It gives an idea of the teaching experience.

In Good Stead

As a second year medical student (1969-1970) I tried to avoid Dr. Stead. Stories of second and even fourth year students being brought to tears during patient presentations to the past chairman of the Department of Medicine intimidated me. I did not think I could learn in that situation. The medicine rotation was considered the toughest clinical rotation of our second year. It would be my second rotation following psychiatry which would leave me ill prepared for the physical rigors of the rotation although perhaps better mentally prepared. Because I worked every 6th night in the blood bank at Duke

Hospital to make ends meet financially, I needed to do my medicine rotation at Duke rather than the VA. Osler was Stead's ward (public female ward). I intentionally requested Long Ward (public male ward) to avoid Dr. Stead.

What followed was an experience in learning which would influence my choice of internal medicine specialty training and rheumatology subspecialty training. I remember the housestaff who introduced me to the excitement of clinical medicine. Junior residents Ed Overfield and Dave Treiman were complemented by interns Rich Knazek and Gary Burger. Whether taking care of patients or making forays in the middle of the night for furniture for our doctors' office, the experience was stimulating, and while, as advertised, incredibly demanding, the final result was fun. There was immediate collegiality; we had a common focus— the best care for our Long Ward patients. Our attendings were kind and patient for an unsophisticated and clinically ignorant student. Dr Herb Sieker and Dr Wendell Rosse shared attending duties.

At the same time Dr Stead was rounding on Osler. My only contact was an occasional noon conference or Saturday CPC (Clinical Pathological Conference). I remember his lanky arm raised for a question or poignant comment or criticism. What was he doing? He was the past chairman and this was Dr. Wyngaarden's department, wasn't it?

One morning well into our rotation we were tidying up the doctors' office for teaching rounds at 10:00. The door cracked open and Dr Stead appeared announcing his substitution rounding that day for Dr Sieker. I was scheduled to present that day. I immediately forgot my patient's name and all details of the presentation. Somehow I got through and only made one minor mistake as pointed out later with good humor by Ed Overfield and the interns. I referred to the pulses on the top of the feet as "dorsal pedalis" pulses instead of dorsalis pedis pulses. The patient had a pulmonary embolus (blood clot in the lung) and was doing well as we anticoagulated his blood with heparin. In discussion of the case I mentioned an article out just that week in the *New England J of Medicine* touting very high doses of heparin and extreme thinning of the blood. I expressed some surprise that Dr Stead had not seen the article. He was kind. "Mr (note: not Dr) Wilson, don't teach me something that won't be true two years from now." How could I know if it would be true? In the book E.A. Stead, Jr: What this Patient Needs is a Doctor Dr Stead mentions the frustration of learning something that does not remain valid. Unlearning is twice as hard as learning. My first direct lesson from him. Do you remember a quote from Will Rogers? "It's not what you don't know that will hurt you; it's what you know that ain't so."

Over the next nine years of training I would encounter Dr Stead many times. What I learned from my first experience was his demand for honesty as well as industry. You had to put the time and energy in the investigation of your patient. You should know all the test results and details of treatment and response. You might not be able to put together the history, physical, and test findings as diagnostic for congestive heart failure or Crohn's or Whipple's disease, but he knew the first step was honesty in obtaining the information. The knowledge of diagnosis and treatment would come with time, and, hopefully, wisdom would follow.

The realization of Stead's impact on my training occurred between 1974 and 1976 during our time ironically away from Duke while serving as the last of the Berry Plan physicians in the Navy at Mayport Naval Station, Jacksonville, Fla. As a General Medical Officer I had much more free time for reading. As a medical student I felt I could do about 25% of my desired reading. This decreased to about 10% as a house officer. It was time to catch up. In addition to a careful digestion of my Harrison's (internal medicine textbook) I began to read a copy of Just Say for Me. Dr Stead would always start his attending note after the patient presentation on teaching rounds with this introduction—then follow with diagnosis, suggestions, or if he felt an unsatisfactory job was being done in caring for the patient—the ultimate criticism—"Just say for me, what this patient needs is a doctor." Ouch. After pointing out several passages to Sandra, she began reading the book as well. Her observation was correct—"This is your philosophy of medicine. These are the principles you practice." I realized what many before and since had understood. Although we trained in Dr. Wyngaarden's program, so many of the tenets and principles were Dr. Stead's. His influence persisted then and I hope now. Dr. Wyngaarden was kind enough and wise enough to perpetuate the Steadian philosophy in his department.

Did Dr. Stead know this? I believe so. Whenever asked, however, he always demurred saying it was Dr. Wyngaarden's department. Years later, in the early 1980's, while developing my rheumatology practice in Lynchburg I was serving as a local medical representative to the Medical Society of Virginia. Each year at the annual meeting there was a reception for Duke Med School alumni and Dr. Stead came as Duke's representative. I always enjoyed the opportunity to socialize and catch up on Duke. At one reception I told Dr. Stead, "You know, those of us in training at that time thought it was Wyngaarden's department, but your influence still got to us." No, no. He reassured me that it was Wyngaarden's department, but I believe he was pleased with the observation.

The book E.A. Stead, Jr. What this Patient needs is a Doctor (pass around copy of book) reaffirms his philosophy of practice and expounds on socio-economic-politico developments facing medicine. As my practice has evolved and the medical scene has changed it is helpful to reread parts of the book. They serve as a refresher for principles of patient oriented medical care easily forgotten in today's practice environment. (I then spoke about the duties as mentioned above.)

The infamous 5 out of 7 call schedule supported Stead's theory that you learned medicine by being there in the hospital caring for the patient. The result was great learning. The consultant or attending had to teach or convince you of the need for recommended tests or treatments before they were ordered. There was a tradition referred to as "pimping" ("The Art of Pimping" *JAMA* 4/1/2009, 1379). The house staff would question and challenge each suggestion especially from fellow house staff working on consulting services and even from senior attendings. With the common focus of what was best for the patient, there were rare conflicts. If there was any disagreement, the intern ruled. I remember as an intern at the VA refusing to allow the endocrinology fellow to take my patient off the ward during work rounds in the morning for presentation to their attending. The fellow later came back and apologized.

The format for notes in the charts by housestaff and consultant followed a system espoused by Dr. Larry Weed called the POMR—Problem Oriented Medical Record. After listing the problem you followed the

SOAP protocol. Subjective (history and symptoms), Objective (physical findings relevant to that problem), Assessment (based on S and O, what was thought to be going on; any differential diasgnosis considerations), and Plan (which included Diagnostic Tests and Treatment Recommendations). This was a great learning tool which taught the student or house officer the clinical features pertaining to each problem. Again, in the era of "pimping", the student or intern carefully critiqued each part. The purpose of the medical record was to assume if something happened to the primary responsible care giver— such as illness or change of rotation, the next person could pick up the chart and easily understand the patient's situation and continue his care. As an obsessive 2nd year student I was SOAP-ing each problem every day until my resident, who had to review my notes asked, "What's the name of this section of the chart?" "Progress notes," I replied. "Has there been any progress?," the resident countered. "No," I admitted. "Then don't clutter the chart with stuff of no value that other care givers have to review." A lesson forgotten in today's EMR (Electronic Medical Record).

At our 30th medical school reunion in 2002 I attended a presentation by Dr. Earl Metz—former chief resident under Stead and chairman of the Dept. of Medicine at Ohio State for many years. He wondered, as I do, what is being missed with the restricted hours in house staff training. I further worry about the disconnect between responsibility and authority experienced by the physician caring for his patient. Increasing responsibility without authority seems to be the trend as the physician has his or her patient advocacy challenged by insurance companies, managed care concerns, Medicare, and third party administrators whose focus seems to be discharging the patient as quickly as possible and restricting services rather than optimizing care. Is training different in the current era? Definitely. Is it better? I do not know. As I look back over the past 40 years of my medical training and practice I remember fondly the medical school education and housestaff training. I never worked so hard nor had so much fun. I am grateful for the preparation I received for the challenges of practice over the years. If someone asks me about my Duke medical education, I proudly tell them it has held me in good Stead.

The next date that resulted in marked changes in medical education was March 4, 1984. Do you remember what happened? Libby Zion died that day. She was 18 years old and had moved back home from Bennington College in Vermont suffering with depression and described by her psychiatrist as "narcissistic, pushy, paranoid, and self-indulgent". She was on a medicine Nordil. She was admitted to the hospital March 3, 1984 with altered mental status and anxiety. The attending staff included an intern Luise Weinstein (serving as a house officer for 8 of the 12 months of internship) and a 1st year resident Greg Stone covering 40 patients that night. When she became more agitated, the intern ordered Haldol. At 6:30 AM March 4th she spiked a temperature to 107 degrees and subsequently underwent cardiac arrest and died. It was felt that she had a condition called the Serotonin Syndrome brought on by the Haldol on top of Demerol and MAO inhibitors as well as cocaine metabolites found in her system at subsequent blood test and autopsy results.

Her father was lawyer/journalist Sidney Zion. With his persistence in 1989 New York State passed a law that limited house staff training hours to no more than 80 hours a week and no more than 24 hours consecutively. In 2003 ACGME (Accreditation Council for Graduate Medical Education) required work hour restrictions for accreditation of training programs. In addition to more rested physicians in training

making fewer mistakes, the more flexible hours should produce happier trainees—more balanced lives. So how has this worked out?

Like so many things, there have probably been mixed results. In 2 articles in 2014 JAMA (*Journal of the American Medical Association)* one study found no difference in the general surgery resident examination results nor patient outcomes with the new system, while another study showed more medical errors occurred with the new system requiring more frequent hand-offs and less continuity of care but an increase in resident's sense of well-being and quality of life. The new system with time compression for getting work done in the restricted hours resulted in less attendance at voluntary teaching conferences like our noon conference or Saturday CPC's.

An interesting article "Graded Autonomy in Medical Education—Managing Things That Go Bump in the Night" *NEJM* March 20, 2014 includes a table showing the changes affecting post-graduate training over the years (see page 2 of your handout). Note the increasing obligation and presence of the attendings. As an intern or resident you need the experience of first hand management of a patient acutely worsening. CCU rotation as intern and Mrs Evan's call. If you've never had to handle this in training; how will you do in practice on your own?

A medical student perspective is presented in a Sept 2014 article titled "Resuscitating Inpatient Clinical Clerkships" *JAMA*, p 1440. The two authors note that "...medical students spend too much time observing others and too little time directly participating in patient care." In touring the new Duke medical student education building this fall I was impressed at the simulation rooms and dummies for training. OR, ER, OB delivery suites, ICU rooms with dummies to practice procedures such as intubation or drawing blood or inserting vascular or bladder catheters are all included. Will this successfully take the place of direct live patient experience? They note that "Duty hour restrictions designed to increase patient safety have meant less time in the hospital for residents to teach students." Teaching is neither time nor cost efficient. Both in training and now in practice, the time compression prompts residents and now private practice physicians to consult the subspecialist rather than take time to work out problems with diagnostic investigation and treatment on their own. My rheumatology experience and GI friend's—a symptom is a consult. Not cost efficient and certainly not a learning experience.

The tendency to refer so readily is quite a change since the 1980's. At that time the primary care physician was going to act as a gatekeeper and would handle initial investigations and care. I remember Dr Stuart Brust, retired dermatologist, was concerned that the family physician would be handling all the routine dermatologic problems and there would not be enough work for the dermatologist. Have you tried to get a dermatology appointment in last 5 to 10 years? Our primary care doctors like Bill McCabe and George Craddock were always available for their patients—they took responsibility and had authority. The ownership of their patients was reflected in the attitude expressed many times by their patients—"I'm not doing anything until Dr McCabe/Craddock okays it." When discussing this with Dr James Sublett during his year as LAM President, he suggested that the primary care physicians would be so busy they would mainly triage patients and refer to the specialists. The gatekeeper inhibiting access to specialty care would not be a problem. I believe he was correct and there is less sense of ownership of the patient related to this.

In the ACP Internist newsletter January 2015, Dr. David Fleming writes in the President's Message section an article entitled "Students and residents are also burning out". He points out a Nov 2014 JAMA article that found "that upon entering medical school students actually had lower rates of burnout and depression and a higher quality of life than college graduates the same age who were not in med school. But by the time they graduated, about half the medical students studied exhibited feelings of depersonalization, emotional exhaustion, and low personal accomplishment. Many were already burned out at the beginning of the most rigorous time of their professional lives, their first year of residency." His topic was prompted by the suicides of two first year residents in different hospital training programs just a few weeks after they had celebrated their graduation from medical school. He mentions factors such as financial debt and the increasing demands of paper work and EMR related factors such as "meaningful use." These factors had been outlined in a previous paper in JAMA Sept 7, 2011 titled "Quality of Life, Burnout, Educational Debt, and Medical Knowledge Among Internal Medicine Residents" by Dr. Colin West, et. al. from Mayo Clinic. The ACP (American College of Physicians) has started an initiative called "Patients before Paperwork" to particularly "refocus the EMR toward a more clinically grounded, patient-centered, and user friendly model of care."

Later studies of young physicians in practice after completing training were worrisome. The average debt in 2001 at the time of completion of med school was $99,089; rising to $113,620 in 2012 at Duke and often over $200,000 currently. There was greater dissatisfaction with practice and frequent changes in practice situations. An interview with retired orthopedist Dr. Paul Fitzgerald in LAMlight (the Lynchburg Academy of Medicine newsletter) this past year noted that new physicians coming to Lynchburg were renting rather than buying. He wonders, as I do, if the new practice situations mean that the physicians will be less likely to "buy into the community" and be part of our community particularly with participation in things like school board, foundations, charities, church, and social programs. Will our community be missing some valuable input; do the new doctors lack a feeling of ownership not only of patients but also of community?

Most come in as employees of Centra or large groups. Rarely do any new physicians begin their own practice assuming the risk or making an investment in a practice. Two studies last year showed that the consolidation of physician practices or purchase of practices by local hospitals resulted in higher health care costs. This is no surprise with the economics of decreased competition resulting in higher prices. Also of interest was a 10.3% greater increase in total health costs in hospital-owned physician organizations than physician owned organizations. This relates partly to a "facility fee" that is charged. When you go to the same office and facility you've used for years, Centra or Carilion is allowed to tack on a facility fee.

As I end 3 ½ years with CVFP (Central Va Family Physicians) I have been impressed with the retirement of several traditional family physicians like Doctors Rick Bendall, Dick Stowers, Jim Vanderwater and the Caulkins and the rapid turnover of younger family practitioners who were meant to be taking their place. I taught most of these younger physicians as part of the LB Family Practice Residency Program and their initial plans for long term family practice relationship with their patients have not panned out. Several wanted more flexible hours and have gone to urgent care, ER, hospitalist, VA clinic, cosmetic medicine, or stopping medical practice entirely for full time parenting.

But what have you noticed as patients? A PBS special on medicine recently mentioned that as a physician, you practice the way you were trained. We were taught 3 A's of practice in order of importance: Availability, Affability, Ability—and I would add a 4th--Affordability. What happens when you call your primary physician with an urgent problem? You wake up one morning with fever and cough; concerned you might have bronchitis. What are the chances you will see your doctor that day? More likely you will be referred to an urgent care facility, the ER, or see a physician extender (physician assistant or nurse practitioner) at the office. If you have to be admitted to the hospital, you will have a hospitalist or several hospitalists assigned to your case. So the physician who should know you the best, likely won't be directing your care. Probably a less efficient and more costly scenario.

Why is your physician less available? Most likely he or she is adapting to the decreased efficiency inherent with the EMR which makes work-in patients less desirable due to increased documentation requirements. At your routine scheduled appointment is your doctor communicating with you or his lap top? Documentation trumps discussion with the patient. One physician friend routinely stays at the office 2-3 hours after patient appointments to complete EMR documentation. One day he completed only 2 of 20 records during the day planning on finishing the other notes during extended hours at the office or at home. He notes that the EMR mistakes quantity for quality. I wrote an article which demonstrated this for LAMlight titled "Missing the Forest for the Trees" when I received a 27 page ER noted loaded with extraneous information which probably distracted the doctors from the most obvious problem of uncontrolled diabetes which subsequently was worsened by their care. If I wanted to develop a system to save money for Medicare and the health insurance companies, I would propose a system that slows your ability to see your usual number of patients and establishes contrived criteria, which if not met with documentation, would allow retrospective analysis to reclaim money. We've got it with the EMR. Add in the threats of HIPAA and meaningful use and we have a setting for discontented physicians, which I believe relates to the increasing disconnect of authority and responsibility.

An example of this disconnect is demonstrated in a friend's malpractice case. An elderly patient was admitted with urosepsis—infection in the bloodstream from a urinary tract infection complicated by prostate problems requiring the use of a urinary catheter. IV antibiotics had the patient improving and my friend as the attending physician was contacted daily by the hospital's utilization reviewers hassling him to get the patient out of the acute care hospital setting—home or an extended care facility perhaps. The patient was in the DRG system—Diagnosis Related Group where the hospital is paid a set amount per diagnosis. If the patient goes home sooner, the hospital makes more money; if later, it may cost them money. As most Medicare patients noted; they were sent home sooner and sicker. This patient's granddaughter was a nurse at the hospital and noted the day of transfer the patient had purulent—cloudy, infected appearing urine. The attending physician was still urged to discharge the patient. The patient was sent out and returned 1-2 days later in recurrent sepsis and died. The physician's authority to keep the patient as long as he wished was questioned and challenged daily. The final example of being left holding the bag of responsibility was the defense by the hospital that they were not a fault as "only the doctor can discharge a patient."

In general outpatient care the doctor's authority is challenged daily with almost each patient from ordering diagnostic tests to deciding on preferred treatments. Pre-authorization of tests and meds

continue to erode the physician's authority leaving him responsible for adverse outcomes. Being the patient's advocate is increasingly more difficult. But again, what have you noticed as patients? Any problems getting tests or treatments you and your doctor feels are indicated but your insurance company challenges? The profit for the insurance company in delay with pre-authorization is not inconsiderable and sometimes the patient or doctor will fatigue in bucking the system—e.g. physical therapy required before an MRI of the back can be ordered.

I remember while applying to med school being irritated when asked at each interview if there were any doctors in the family. There were none. I finally asked if there was some inherited trait that would make someone more likely to be a good physician. No. They just felt that exposure to a physician family member would have the applicant more aware of the professional demands. Years later a young associate, unhappy with practice, said the time to retire was "as soon as you can." More worrisome is talking with what I call my "tween" doctors—(middle aged and too young to retire) including many family practice physicians whom I taught 20 to 30 yrs ago continuing practice to meet financial obligations and almost unanimously ready to retire as soon as they can and actively discouraging their children from pursuing medical school without caveats--avoid primary care; consider subspecialized areas such as Moh's surgery in dermatology or radiology.

I suspect there will continue to be a shortage of primary care physicians in our Central Virginia area as well as nationwide. It will be of interest to see how this need is met with the new Liberty University College of Osteopathic Medicine. The November 12, 2014 News & Advance article talks about the joint venture of Centra and Liberty. It presents a significant challenge in this age of more flexible time for medical students and residents. Will we see the key concerns of Flexner addressed or are they passé? Review the key recommendations by Flexner on your handout. Are they being met?

Let me close telling you about a product of the new system, Dr.Kate Mitchell. She completed her med school education at UNC, and prior to starting her medical internship at Duke she would spend two weeks with me in May 2005 at the Lynchburg Rheumatology Clinic. She was the daughter of a med school classmate, Dr. John Lawrence, who really started invasive cardiology in Asheville. He was one of the early founders of their large cardiology group. Kate is exceptional. As a first year undergraduate at Duke she developed a severe case of Hodgkin's Disease. Intensive chemotherapy and serious surgeries resulted in a cure, and her perspective on caring for patients had been affected in a positive way since. My med school classmate suggested that she see what a real clinical rheumatology practice was like; suggesting that with her past medical history she probably could not handle the demands of cardiology but <u>could</u> manage an easier medical practice like rheumatology. OK, for whatever reason I was glad to introduce Kate to clinical rheumatology, and I often refer to her subsequent decision to become a rheumatologist as perhaps the best contribution I made to the field of rheumatology.

Kate went through the new resident and fellow post-graduate training system with restricted hours and increased senior staff supervision as described above. Her excellence in the system as a house officer and rheumatology fellow resulted in an appointment to the Duke Rheumatology Division. Referral of several of my rheumatology patients needing medical center input over the past 3 ½ years confirmed her excellent practice of rheumatology. I remain proud. But this year Kate left Duke and assumed the

practice of Dr. Andrew Barada—a private group rheumatology practice in Durham. The demands above and beyond her rheumatology practice—such as attending on wards involved much greater time demands to comply with restricted residents' hours and regulations (look again at the changes on your handout page 2 especially relating to Attending-Physician Supervisory Roles from 2000's to 2010's which would affect Kate's Attending Physician duties). So an excellent physician trained in the new system leaves the Duke academic environs—to have more time with her young family; more "flex" time.

Questions and Comments?

SPHEX FLEX TIME OUTLINE (2/5/2015)

Two dates that dramatically changed medical training: 1910 and March 4, 1984

FLEXNER REPORT: 8 key points

1. Overproduction of uneducated and ill-trained medical practitioners
2. The hospital medical school needed to be under complete educational control
3. Trustees of hospitals should open hospital wards to teaching.
4. The universities must secure sufficient funds to employ teachers dedicated to clinical science
5. Med schools needed to be properly outfitted, equipped, and linked to first rate teaching hospitals.
6. Students admitted needed to have the highest order of qualifications
7. Research and original investigation "untrammeled by near reference to practical ends, will go on in every properly organized medical school; its critical method will dominate all teaching."
8. Physicians have a social contract: helping others and prevention of disease in the population rather than merely curing the individual.

WHAT WAS TRAINING LIKE?

LIBBY ZION TRAGEDY 3/4/1984; ACGME (Accreditation Council for Graduate Medical Education) see copy of Timeline Changes--attached(NEJM—*New England Journal of Medicine* March 20, 2014); how has training changed?

LIBERTY UNIVERSITY College of Osteopathic Medicine; "Centra, LU join for 30 years" *News and Advance* November 12, 2014; challenges of future medical education—MD's, PA's, NP's, PT's.

MORE FLEX AND LESS FLEXNER?

1970s	1980s	1990s	2000s	2010s
	1984 Libby Zion Dies; 1987 Bell Commission Report		2003 ACGME Work-Hour Rules	2011 Revision of ACGME Rules
TRENDS IN TRAINING				
Primary care internal medicine programs established	Increased training of general internists	Hospitalist training programs established	Increased training of hospitalists	Increased training in patient safety, quality improvement, and systems
ATTENDING-PHYSICIAN QUALIFICATIONS				
Clinical and laboratory-based subspecialists	Subspecialists and general internists	General internists, subspecialists, and a few hospitalists	General internists, hospitalists, and subspecialists	Hospitalists, general internists, and fewer subspecialists
ATTENDING-PHYSICIAN SUPERVISORY ROLES				
Rounds only in the morning, briefly on old patients, teaching on new admissions	Same as 1970s	Same as 1970s	Rounds in the morning, on new patients, closer supervision of all patient care, some in-house attendings in ICUs overnight	Attendings present on the ward most of the day, some in-house overnight attending in both ICUs and wards
DEGREE OF RESIDENT AUTONOMY				
Residents spoke with attendings only in morning rounds, almost never called at night	Same as 1970s	Increased contact during the day	Informal protocols for calling attendings; increased contact during the day and night	Explicit protocols for calling attendings at night (e.g., must call for change in code status, high-acuity admission)
RESIDENT WORK HOURS				
On call 1 night in 3; post-call stay until at least 5 p.m.	Same as 1970s	On call 1 night in 4; post-call stay until at least 5 p.m. (except in New York)	Maximum, 30-hr shifts and 80 work hr per wk	First-year residents limited to 16-hr shifts, other residents to 28-hr shifts; all residents limited to 80 work hr per wk

Timeline for Changes in Graded Autonomy in Internal Medicine Residency Programs, 1970s–2010s.
ACGME denotes Accreditation Council for Graduate Medical Education.

Attending physicians must now evaluate "educational milestones," or trainees' attainment of proficiency in core competencies defined by accreditation bodies. Other new terms, including "entrustable professional activities" and "statements of awarded responsibility" reflect the aim of translating theory into practice. The ACGME's "Next Accreditation System" will use the concepts underlying this new language to regulate residency programs.[4]

A second, subtler challenge for physicians who begin their independent careers in teaching hospitals is the expectation that they will simultaneously provide trainees with appropriate supervision and autonomy. Experienced teaching physicians are currently encountering this challenge, given the shifting roles of trainees and attendings (see timeline). Should attendings routinely review laboratory values and imaging reports? Should they impose minor changes in therapies (e.g., medication doses or intravenous infusion rates) ordered by residents?

We believe that most residents chafe at such close supervision.