



## Returning to a Pre-Flexner Milieu: Clinician Non-Compliance with Treatment Protocols

M. Myrtha Gregoire-Bottex<sup>1\*</sup>, Donald E. Greydanus<sup>1</sup> and Katherine Soe<sup>2</sup>

<sup>1</sup>Department of Pediatric & Adolescent Medicine, Western Michigan University, USA

<sup>2</sup>Department of Pediatrics and Psychiatry, Indiana University School of Medicine, USA

### Editorial

**“Medical education is not just a program for building knowledge and skills in its recipients... it is also an experience which creates attitudes and expectations.”**

Abraham Flexner (1866-1959)

Abraham Flexner (1866-1959) was an American educator whose famous 1910 document, *Flexner Report*, changed the quality of medical student education for the better by recommending high, uniform standards in medical education [1-3]. His classic report helped to establish progressive principles of medical education that included the need to standardize medical training at a high level and produce doctors of exceptional training who would provide an effective level of standardized treatment to patients seeking their care.

**“A patient had a 50-50 chance of benefiting from visiting a physician as of 1910. Medicine was more voodoo than science until the 20<sup>th</sup> century.”**

Abraham Flexner (1866-1959)

One of the monumental movements of medicine in the 20<sup>th</sup> and now 21<sup>st</sup> century was the deliberate development of various expert committees (national and international) to review *au courant* research and professionally provide guidelines of treatment based on the best available medical evidence around the world [4,5]. Though these guidelines change from time to time as more scientific evidence emerges, it is important for clinicians to be educated in these guidelines and to follow them carefully to ensure the best outcomes or highest quality of health care for their patients [4,5].

Despite this forward-looking movement in provision of optimum health care, an analysis of how well some clinicians utilize these established guidelines is disturbing. A number of clinicians are not consistently implementing approved guidelines for a various reasons including actual ignorance of these guidelines' existence and/or effectiveness [5-10].

A practical, poignant, paradigm of this clinician non-compliance circumstance is the *au courant* management of pelvic inflammatory disease (PID) --a potentially devastating polymicrobial infection of the female upper genital tract [11]. PID is usually caused by sexual transmission of *Neisseria gonorrhoeae* and/or *Chlamydia trachomatis*, though a variety of microbes from the vagino-cervical endogenous flora can also be involved [11]. Sadly, there are approximately 1 million annual cases of PID in the United States with one-third occurring in adolescents who are at risk for PID complications such as fertility and chronic pelvic pain [11].

Experts recommend an early diagnosis of PID along with following the latest U.S. Centers for Disease Control and Prevention (CDC) sexually transmitted diseases guidelines---guidelines started in the 20<sup>th</sup> century and revised periodically [12-14]. How well are clinicians doing to reduce the acute symptoms as well as potentially chronic complications of this major sexually transmitted disease by following the expert guidelines of the CDC?

Unfortunately, studies conclude that many clinicians are not following these expert guidelines potentially increasing complications in these adolescent and adult PID patients [15-18]. This is emphatically epitomized in an excellent population-based report on management of PID in emergency departments in youths with PID from 2000 to 2009 based on observance of the then CDC recommended 2006 CDC guidelines; tragically, low clinician compliance was identified [15]. Unfortunately, this is an international clinician-based problem as well [18].

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#### \*Correspondence:

M. Myrtha Gregoire-Bottex, Department of Pediatric & Adolescent Medicine, Western Michigan University, Homer Stryker M.D. School of Medicine, 1000 Oakland Drive, Kalamazoo, MI 49008-1284, USA, E-mail: Myrtha.Gregoire-Bottex@med.wmich.edu

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Treatment guidelines for other conditions are also being ignored and these include protocols for managing eating disorders, depression, anxiety, attention-deficit/hyperactivity disorder, cardiovascular disorders, and others [5-8,19-23]. Assorted reasons are provided for limited management guideline implementation including iatric information overload, unconscious forgetfulness, ignorance of the existence of guidelines, town-gown influences, patient non-adherence whether involuntary or voluntary, complications of social barriers (i.e., poverty, immigration status), medication misperceptions, parent or patient illness, and refusal of patients to follow sanctioned standards [24-28].

For example, the familiarity of physicians with the American Academy of Pediatrics' guidelines for attention-deficit/hyperactivity disorder (ADHD) varies considerably by specialty, with 30% more pediatricians reporting familiarity than family physicians. Despite over 77% of primary care physicians being familiar with these guidelines and feeling their community's mental health resources were inadequate, only 25% report routinely adhering to all diagnostic components surveyed, likely somewhat influenced by limited insurance coverage for ADHD assessment and treatment [22].

Another expository example of clinician non-compliance with guidelines is seen with management of asthma. Many physicians are either over- or under prescribing asthma medications ignoring the need to assign a severity or control level; others are not fulfilling the asthma education and self-management skills [27,29]. Unfortunately, the problem is not limited to primary providers. In a large study at a tertiary asthma center, 82% of patients with persistent asthma were prescribed long term inhaled corticosteroids; however, there was significant variability in assigning phenotype--especially in preschool children [27,29]. There is also considerable variability in cystic fibrosis centers' outcomes and objective overview reveals substantial differences in treatment of acute pulmonary exacerbation and adherence to pulmonary guidelines [30].

Various strategies are recommended to improve limited guideline fulfillment including increased education about these protocols, the development as well as dissemination of tools to improve guideline use by clinicians, computer-generated reminders for clinicians, enhanced clinician-patient communication, increased oversight of physician practices, and, of course, more research into the prevalent phenomenon of potentially picayune protocol practice itself [31-35].

Additionally, there is a need for improved provider to provider health communication, emphasis on patient-centered care, cooperation as well as changing barriers, and resources including mental health integration into routine care [36-38].

However, what is exigently needed in the 21<sup>st</sup> century is that clinicians lucidly understand the privilege it is to care for human beings and that in this professional clinician-patient relationship, the patient deserves and demands the best evidence-based management for his/her illness. In the tradition of Abraham Flexner, how can we do less and why should we return to a pre-Flexner era? As debtors to our profession, we should do all we can for the maximum benefit of all our patients.

*"I hold every man a debtor to his profession."*

Francis Bacon (1561-1626).

## References

- King LS. Medicine in the USA: historical vignettes. XX. The Flexner report of 1910. JAMA. 1984;251(8):1079-86.
- Beck AH. STUDENTJAMA. The Flexner report and the standardization of American medical education. JAMA. 2004;291(17):2139-40.
- Halperin EC, Perman JA, Wilson EA. Abraham Flexner of Kentucky, his report, Medical Education in the United States and Canada, and the historical questions raised by the report. Acad Med. 2010;85(2):203-10.
- Burgers JS, Grol R, Klazinga NS, Mäkelä M, Zaat J, AGREE Collaboration. Towards evidence-based clinical practice: an international survey of 18 clinical guideline programs. Int J Qual Health Care. 2003;15:31-45.
- Graham B. Clinical practice guidelines: what are they and how should they be disseminated? Hand Clin. 2014;30(3):361-5, vii.
- Hayward RS. Clinical practice guidelines on trial. CMAJ. 1997;156(12):1725-7.
- Veatch RM. Who should manage care? The case for patients. Kennedy Inst Ethics J. 1997;7(4):391-401.
- Cabana MD, Rand CS, Powe NR, Wu AW, Wilson MH, Abboud PA, et al. Why don't physicians follow clinical practice guidelines? A framework for improvement. JAMA. 1999;282(15):1458-65.
- Gowdy AD. What guidelines? Never saw them! PLoS Med. 2006;3(9):e413.
- Brindis RG, Sennett C. Physician adherence to clinical practice guidelines: does it really matter? Am Heart J. 2003;145(1):13-5.
- Greydanus DE, Dodich C. Pelvic inflammatory disease: a poignant, perplexing, potentially preventable problem for patients and physicians. Curr Opin Pediatr. 2015;27(1):92-9.
- U.S. D.H.H.S. Public Health Service. Centers for Disease Control. Sexually transmitted diseases treatment guidelines. MMWR Morb Mort Wkly Rep. 1982;31(25):33S-60S.
- Centers for Disease Control and Prevention. 1993 Sexually transmitted diseases treatment guidelines. MMWR. 1993;42:1-102.
- Workowski KA, Bolan GA, Centers for Disease Control and Prevention. Sexually transmitted diseases treatment guidelines, 2015. MMWR Recomm Rep. 2015;64(RR-03):1-137.
- Goyal M, Hersh A, Luan X, Localio R, Trent M, Zaoutis T. Are emergency departments appropriately treating adolescent pelvic inflammatory disease? JAMA Pediatr. 2013;167(7):672-3.
- Leichter JS, Chandra A, Aral SO. Correlates of self-reported pelvic inflammatory disease treatment in sexually experienced reproductive-aged women in the United States, 1995 and 2006-2010. Sex Transm Dis. 2013;40(5):413-8.
- Shih TY, Gavdos CA, Rothman RE, Hsieh YH. Poor provider adherence to the Centers for Disease Control and Prevention treatment guidelines in US emergency visits with a diagnosis of pelvic inflammatory disease. Sex Transm Dis. 2011;38(4):299-305.
- Nicholson A, Rait G, Murray-Thomas T, Hughes G, Mercer CH, Cassell J. Management of first-episode pelvic inflammatory disease in primary care: results from a large UK primary care database. Br J Gen Pract. 2010;60(579):e395-406.
- Kosmerly S, Waller G, Lafrance Robinson A. Clinician adherence to guidelines in the delivery of family-based therapy for eating disorders. Int J Eat Disord. 2015;48(2):223-9.
- Bauer MS. A review of quantitative studies of adherence to mental health clinical practice guidelines. Harv Rev Psychiatry. 2002;10(3):138-53.
- Smolders M, Laurant M, Verhaak P, Prins M, van Marwijk H, Penninx B, et al. Which physician and practice characteristics are associated with adherence to evidence-based guidelines for depressive and anxiety disorders? Med Care. 2010;48(3):240-8.
- Rushton JL, Fant KE, Clark SJ. Use of practice guidelines in the primary

- care of children with attention-deficit/hyperactivity disorder. *Pediatrics*. 2004;114(1):e23-8.
23. Leape LL, Weissman JS, Schneider EC, Piana RN, Gatsonis C, Epstein AM. Adherence to practice guidelines: the role of specialty society guidelines. *Am Heart J*. 2003;145(1):19-26.
24. Arditi C, Rège-Walther M, Wyatt JC, Durieux P, Burnand B. Computer-generated reminders delivered on paper to healthcare professionals; effects on professional practice and health care outcomes. *Cochrane Database Syst Rev*. 2012;12:CD001175.
25. Fretheim A, Oxman AD, Håvelsrud K, Treweek S, Kristoffersen DT, Bjørndal A. Rational prescribing in primary care (RaPP): a cluster randomized trial of a tailored intervention. *PLoS Med*. 2006;3(6):e134.
26. Baker RJ. The town-gown syndrome. An ancient disease, as yet uncured. *Arch Surg*. 1991;126(3):285-7.
27. Klok T, Kaptein AA, Brand PL. Non-adherence in children with asthma reviewed: The need for improvement of asthma care and medical education. *Pediatr Allergy Immunol*. 2015;26(3):197-205.
28. Koo JH, You MY, Liu K, Athureliya MD, Tang CW, Redmond DM, et al. Colorectal cancer screening practice is influenced by ethnicity of medical practitioner and patient. *J Gastroenterol Hepatol*. 2012;27(2):390-6.
29. Ducharme FM, Morin J, Davis GM, Gingras J, Noya FJ. High physician adherence to phenotype-specific asthma guidelines, but large variability in phenotype assessment in children. *Curr Med Res Opin*. 2012;28(9):1561-70.
30. Glauser TA, Nevins PH, Williamson JC, Abdolrasulnia M, Salinas GD, Zhang J, et al. Adherence to the 2007 cystic fibrosis pulmonary guidelines: A national survey of CF care centers. *Pediatr Pulmonol*. 2012;47: 434-40.
31. Flodgren G, Hall AM, Goulding L, Eccles MP, Grimshaw JM, Leng GC, et al. Tools developed and disseminated by guideline producers to promote the update of their guidelines. *Cochrane Database Syst Rev*. 2016;(8):CD010669.
32. Albright G, Adam C, Serri D, Bleeker S, Goldman R. Harnessing the power of conversations with virtual humans to change health behaviors. *Mhealth*. 2016;2:44.
33. Alavi-Moghaddam M, Anvari A, Soltani Delgosha R, Kariman H. Protocol adherence for severe sepsis and septic shock management in the emergency department; a clinical audit. *Emerg (Tehran)*. 2017;5(1):e16.
34. Ofori-Asenso R, Zomer E, Curtis A, Tonkin A, Nelson M, Gambhir M, et al. Patterns and predictors of adherence to statin therapy among older patients: protocol for a systemic review. *JMIR Res Protoc*. 2017;6(3):e39.
35. Okelo SO, Butz AM, Sharma R, Diette GB, Pitts SI, King TM, et al. Interventions to modify health care provider adherence to asthma guidelines: a systematic review. *Pediatrics*. 2013;132(3):517-34.
36. McIntosh B, Katchadourian K, Amed S. British Columbian healthcare providers' perspectives on facilitators and barriers to adhering to pediatric diabetes treatment guidelines. *Can J Diabetes*. 2017.pii: S1499-2671.
37. Hammersen F, Goetz K, Soennichsen A, Emcke T, Steinhäuser J. Effects of communication training with the MAAS-Global-D instrument on the antibiotic prescribing for respiratory infections in primary care: study protocol of a randomized controlled trial. *Trials*. 2016;17(1):180.
38. Sadeghi-Bazargani H, Tabrizi JS, Azami-Aghdash S. Barriers to evidence-based medicine: a systematic review. *J Eval Clin Pract*. 2014;20(6):793-802.