Transforming Clinical and Education Work Into Scholarship

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<th>Discovery Research</th>
<th>Integration Multidiscipline</th>
<th>Application Quality Improvement</th>
<th>Teaching</th>
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*Scholarship Reconconsidered PRIORITIES OF THE PROFESSORIATE* ERNEST L. BOYER - THE CARNEGIE FOUNDATION FOR THE ADVANCEMENT OF TEACHING Book 1990 - Chapter 2
Discover your own academic goals

Ask yourself: “What is it that motivate you the most”? 
What goal are you trying to accomplish and why?

How will you know you’ve achieved your goal? What is your intended outcome?

What actions will you put in place to ensure you achieve this goal?

How does this goal align with your role as an educator?

What is the timeline for achieving this goal?
Develop a niche

Identify your areas of interest and recognize your strengths

What is not currently offered that it should be offered and why not?

What are the unmet needs within your practice?
Good mentoring is one of the most important factors in fostering successful academic careers.

- Formal and informal mentors
- Interprofessional collaborators
- Division Chiefs
- Department chairs
- Faculty development course members
Mentors can impact on our personal development, career guidance, and productivity by offering guidance, encouragement and support.
Transform educational activities into Scholarship

Dedicate some time of your schedule to turn teaching activities or curricula innovations in scholarship

Coordinate with Clerkship Director and Resident Program Director about teaching innovative modules in your area of expertise

Book chapters; survey research

Organize a workshop

Mentoring medical students in Scholarly Activity and Research Program (SARP) Contact Ms. Carolyn Mack@ttuhsc.edu
Transform educational activities into Scholarship

Teaching activity
- Developing new... or updating
- Example: Teaching psychiatric emergencies through simulation

Scholarly Approach
- Assessment/evaluation data
- Pre/post tests

Scholarship
- Submit an abstract
- Present your innovation in meetings
- Publish
Transform Clinical Services into Scholarship

Clinical services can potentially provide subjects that can facilitate research endeavors in your area of expertise.

Combine your clinical service and the area of interest in research to improve your scholarship production.

Use the Electronic Medical Record as source of data (depression or anxiety scales).
Objective

Purpose of our study is to examine the rate of suicidal attempts in inpatient and emergency psychiatric consultation services at university medical centers, a tertiary care teaching hospital on the U.S.-Mexico border and to describe demographic, clinical and clinical characteristics of this population.

Method

Study Design

All patients referred for psychiatry consultation during November 2015 were identified and data collected such as:

1. Patient’s data (age, gender, marital status, employment status);
2. Historical data (substance use, psychiatric and sexual abuse history);
3. Consultation data (reason for referral, and psychiatric diagnosis); and
4. Recommendations (psychiatric medications, inpatient psychiatric hospitalization).

The Diagnostic and Statistical Manual of Mental Disorders Fifth Edition was used to adjudicate the psychiatric diagnosis.

Statistical Analysis

Statistical procedures included descriptive statistics, assessment of response distribution (frequency counts) and correlation.
Research projects

Within your area of interest, identify what clinical questions are still unanswered

Research about conditions that are prevalent in your practice

Take advantage of your population

Your research can offer something unique and it can potentially have a nationwide impact
NATURE
April 25, 1953

MOLLEcular STRUCTURE OF NUCLEIC ACIDS

A Structure for Deoxyribose Nucleic Acid

We wish to suggest a structure for the salt of deoxyribose nucleic acid (D.N.A.). This structure has novel features which are of considerable biological interest. A structure for nucleic acid has already been proposed by Pauling and Coryell. They kindly made their manuscript available to us in advance of publication. Their model consists of three intertwined chains, with the phosphates near the fibre axis, and the bases on the outside. In our opinion, this structure is unsatisfactory for the reasons that:

(1) We believe that the material which gives the X-ray diffraction is the salt, not the free acid. Without the acidic hydrogen atoms it is not clear what forces would hold the structure together, especially as the negatively charged phosphates near the axis will repel each other. (2) Some of the van der Waals distances appear to be too small.

Another triple-chain structure has also been suggested by Fraser (in the press). In his model the phosphates are on the outside and the bases on the inside, linked together by hydrogen bonds. This structure as described is rather ill-defined, and for this reason we shall not comment on it.

We wish to put forward a radically different structure for the salt of deoxyribose nucleic acid. This structure has two helical chains each coiled round the same axis (see diagram). We have made the usual chemical assumptions, namely, that each chain consists of phosphate diester groups joined by deoxyribose ribose residues with 5'3' linkages. The two chains (but not their bases) are related by a dyad perpendicular to the fibre axis. Both chains follow right-handed helices, but owing to the dyad the sequences of the atoms in the two chains run in opposite directions. Each chain loosely resembles Forberg's model No. 1; that is, the bases are on the inside of the helix and the phosphates on the outside. The configuration of the sugar and the atoms near it is close to Forberg's "standard configuration." The sugar being roughly perpendicular to the attached base. There is a residue on each chain every 3 4 A. in the z-direction. We have assumed an angle of 38° between adjacent residues in the same chain, so that the structure repeats after 19 residues on each chain, that is, after 24 A. The distance of a phosphate atom from the fibre axis is 10 A. As the phosphates are on the outside, sodium ions have easy access to them. The structure is an open one, and its water content is rather high. At lower water contents we would expect the bases to tilt so that the structure could become more compact.

The novel feature of the structure is the manner in which the two chains are held together by the purine and pyrimidine bases. The planes of the bases are perpendicular to the fibre axis. They are joined together in pairs, a single base from one chain being hydrogen-bonded to a single base from the other chain, so that the two lie side by side with identical z-coordinates. One of the pair of deoxyribofuranose residues is held at the other a pyrimidine for bonding to occur. The hydrogen bonds are made as shown in positions 1 to pyrimidine position 1; purine position 6 to pyrimidine position 6. If it is assumed that the bases only occur in the structure in the most plausible tautomeric forms (i.e. that, with the lone pair of electrons conjugated), it is found that only specific pairs of bases can bond together, the purines (adenine & thymine, guanine & cytosine) being the only exceptions.

In other words, if an adenine forms one member of a pair, on either chain, then the guanine of the other must be thymine; similarly for thymine and cytosine. The sequence of bases on a single chain does not appear to be restricted in any way. However, if only specific pairs of bases can be formed, it follows that if the sequence of bases on one chain is given, then the sequence on the other chain is automatically determined. It has been found experimentally that the ratio of the amounts of adenine to thymine, and of guanine to cytosine, are always very close to unity for deoxyribose nucleic acid. It is probably impossible to build this structure with a ribose sugar in place of the deoxyribose, as the extra oxygen atom would make too close a fit with the deoxyribose.

The previously published X-ray data on deoxyribose nucleic acid are insufficient for a rigorous test of our structure. So far as we can tell, it is roughly compatible with the experimental data, but it must be regarded as unproved until it has been checked against more exact results. Some of these are given in the following communications. We must warn, however, of the details of the results presented there which we devised our structure, which rests mainly upon data entirely on published experimental data and biochemical arguments.

It has not escaped our notice that the specific pairing we have postulated immediately suggests a possible copying mechanism for the genetic material. Full details of the structure, including the conditions assumed in building it, together with a set of coordinates for the atoms, will be published elsewhere.

We are much indebted to Dr. Jerry Donohue for constant advice and criticism, especially on insect structures. We have also been stimulated by a knowledge of the general nature of the unpublished experimental results and ideas of Dr. M. N. F. Wilkins, Dr. R. E. Franklin and their co-workers at King's College, London. One of us (J. D. W.) has been aided by a fellowship from the National Foundation for Infantile Paralysis.

J. D. WATSON
F. H. C. CRICK

Medical Research Council Unit for the Study of the Molecular Structure of Biological Systems, Cavendish Laboratory, Cambridge, April 2.

Improve your research work

Your paper need to be:

✓ Simple
✓ Clear
✓ Well organized
✓ Novel
✓ Good literature review
For publication consider

Impact factor and ranking of the journal
Authorship position
Funding and other resources
Research Task-Force

Biostatistics and Epidemiology Consulting Lab services will be free for all full-time faculty (effective March 1, 2109)

Seed grants will be available Sep 1, 2019

Other research activities

- Volunteer as a peer reviewer
- Be involved in research committees
Create your research team

Identify people with similar interest inside and outside of your institution

Look for interprofessional collaboration (medical students, residents, fellows, neuropsychologists, neuroradiologists, etc)

Network, network, network
Promote your Scholarship

- Meeting presentations
- Social media and blogs
- Institutional and personal platforms
- Research Gate
- Google Scholar
- LinkedIn
- Doximity
Pursue additional training

Participate in Women in Medicine and Science: Research committee, Career Development committee

Association of American Medical College (AAMC)

Leadership Education and Development (LEAD) Certificate Program

https://www.aamc.org/members/leadership/catalog/364660/leadershipeducationanddevelopmentcertificateprogram.html

Participate in meetings and CME activities
Balance your life
Accept the fact that you need help – help from your spouse, childcare, and from the institution

Maintain some balance between your personal life and your career

Take advantage of a flexible schedule to blend family time with work time
Organize and Prioritize

Prioritize your tasks
Where do the majority of your tasks fall on the chart?

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<tr>
<th>Important</th>
<th>Not Important</th>
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<tbody>
<tr>
<td>I Important</td>
<td>II Important,</td>
</tr>
<tr>
<td>Urgent</td>
<td>but Not Urgent</td>
</tr>
<tr>
<td></td>
<td>III Urgent,</td>
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<tr>
<td></td>
<td>but Not Important</td>
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<tr>
<td></td>
<td>IV Not Urgent</td>
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<td></td>
<td>and Not Important</td>
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Source: Stephen Covey, *The Seven Habits of Highly Effective People*
Pitfalls

Avoid spend all your time in clinical work

Avoid saying yes to everything, each request can be evaluated to determine if it will be productive or no

Align your personal objectives with the division or department’s mission
Conclusions

- The roadmap for a successful academic career should start day one in your career.
- Mentorship and education are key to achieve the success.
- We chose a medical career pathway in academic medicine because something beyond just clinical practice is motivating our curiosity.
- We have the responsibility of being role models for our students and trainees.
- A good (or bad) role model can potentially have a significant impact on our future generations of medical students and trainees at the time of considering an academic career.
- It is our responsibility to make academia “cool” again to make it attractive to new generations of young physicians.
References


3. How to Promote the Academic Success of Junior Faculty Physicians in Gastroenterology Nicholas J. Shaheen and Robert S. Sandler. Gastroenterology 2018;155:1293–1297


Thank you!

Questions?