

Readings for Jonathan London's Team-Building Exercise
2009 Intensive Course

Article #1 of 2

O'Reilly, Patricia. "Finding the Balance in Public Policy Simulations and Role Playing"
Paper presented at the annual meeting of the APSA Teaching and Learning Conference,
San Jose Marriott, San Jose, California, Feb 22, 2008. 2009-05-23. Accessed at:
http://www.allacademic.com/meta/p245627_index.html

ABSTRACT

Simulations and Role Playing are particularly suited to teaching public policy. Because of the complexity of policy making and the increasing emphasis in the field on the need for more complex methodological approaches to its understanding, public policy presents a difficult field of teaching. Instructors and textbook authors necessarily present the student with a more coherent, rational and predictable process than exists in reality. Some of this bias can be alleviated by immersing the students in a policy making simulation. This paper recommends the use of four types of person-to-person, role playing, policy simulations: an intergovernmental meeting, a legislative assembly session, an all-party policy committee meeting, and a policy sector management meeting. Best practices which involve the balancing of key elements of these four types of simulations are presented and discussed.

INTRODUCTION

Simulation and role playing exercises provide a valuable addition to courses in public policy. Policy, as it is lived out in real life politics, is a complex, messy process, so the academic discipline of political science has learned to structure public policy courses and materials in a way which provides instructors and students with a manageable teaching and learning task.

Structures, actors and processes are presented in a coherent manner which often implies considerably more rationality and predictability than that which exists in the real world of public policy making. Students, particularly undergraduates, are often taught about the policy cycle of formulation, implementation and evaluation and while this is a useful heuristic tool it leaves an impression of causality that is often excessive. As an instructor, experience has taught me that no amount of countering the presentation of this structured analysis with theories such as the garbage can model of policy making or the subjectivity of interpretive elements of policy making are as effective as having the students themselves live out some of the unpredictability and subjectivity of the policy process.

Even graduate students who are more theoretically sophisticated and learned in a variety of analyses and therefore less susceptible to the assumed rationality of the policy cycles model or similar structural analyses tend to underestimate both the influence of power politics and the role of human relations in the process. Policy simulations and role playing provide an effective teaching method for introducing a better balance between the textbook rationality and the real world complexity of public policy making. As one student put it,

“The negotiations and simulation meeting provided a unique opportunity to understand the realities of shaping policy in a parliamentary committee situation. In the theoretical

study of policy formulation, implementation, and evaluation, diagrams and arrows depict the multifaceted nature of stakeholder interactions illustrating the policy process. The policy cycle looks relatively logical and clear-cut. What is missing for the students studying policy development theory is the thrust and parry of negotiations and the sometimes irrational nature of human choices. The emotion, surprising reactions, and partisan nature of political expediency are not adequately captured within a text or through a lecture.”

According to the education literature, simulations increase student interest, enthusiasm and sense of control over one’s learning (Dougherty 2003); increase political knowledge (Baranowski, M. 2006); develop critical thinking and logical reasoning (Smith and Boyer 1996; Hayati, M 2006); increase retention of knowledge (Smith and Boyer 1996); develop empathy (or hermeneutical understanding) (Dougherty 2003), and decrease levels of cynicism (Lay, CJ and K Smarick 2006). Despite the positive effects for students, the education literature has also pointed out the negative reasons why many instructors do not use simulations. Austin, McDowell and Sacko provide a good review of the literature documenting these reasons. (2006) Factors such as preparation time, poor fit with the course, lack of information on simulations, pedagogical preferences, amount of class time required, and funding, administration and technical issues were most often given by respondents as the reasons why they did not use simulations. Moss refers to the simulation as the most labor intensive way of working for an instructor. (Moss in Austin et al 2006, p. 232). Armstrong refers to them as risky (Armstrong in Austin et al 2006 p. 232). Lean, Moizer, Towler and Abbey found that instructors concerns are less about resources and more about “the suitability of, and risks attached to such learning methods.” (2006, p.227)

It is my experience that many of these negative perceptions about simulations are misleading. They may be based on the false impression that simulations need be longer and more complex than is necessary. One can start out with a simple, one-class simulation where the student’s play the role of members of a few political parties debating one policy issue in order to vote on a triage for action. Then, if she or he wishes to, the instructor can move to slightly longer versions of this simple simulation, which involve assignments, negotiations and de-briefing exercises which enhance but do not fundamentally change that original simple format. Here, I present some suggestions for moving into simulation work in policy courses. One need not be overwhelmed. The key is to keep it simple, focused and balanced – and to avoid unnecessary labour.

POLICY PROCESS SIMULATION MODELS

Since the students are already strongly exposed in most policy textbooks and courses to the formal political processes and to a much lesser extent to the elements which derail those formal processes, I would recommend the instructor select a policy process which introduces a considerable power dynamic and some tense personal relations. However, one would not want this latter dynamic to be too overpowering or the simulation might become difficult to control. What you want is a balance between rationality and human dynamic.

My experience has been that intergovernmental meetings, legislative assemblies, all-party policy committees, and policy sector management meetings all serve this purpose well, although they each have their advantages with regard to other elements you might wish to teach in the process and it is important that the instructor have a good working knowledge of the institutions she or he chooses to use. Intergovernmental meetings carry a considerable power dynamic between the central and peripheral governments. They also carry an established hierarchy among the players. As well, they have a history of new and established personal relationships among the actors which are based on a variety of factors such as personality, party ideology, and old turf wars. Legislative assemblies and all-party policy committees carry a considerable power dynamic between the government in power and the opposition parties, with the same type of human relations elements as the intergovernmental meetings.

These two models are strongly oriented toward the understanding of the interactions of political actors (and civil service actors, if one wishes to introduce them) in the policy process. Other policy actors, particularly interest groups, can be brought into the simulations as third party actors and they too will have an established hierarchy, but their roles are necessarily secondary. For a broader range of types of policy actors, a policy sector management meeting brings together political, bureaucratic, institutional, interest group, and (if one wishes to introduce them) public actors. All of these models of simulations are quite manageable; it is up to the instructor to decide which best suits the learning purpose of the exercise and the types of students in the course.

SIMULATION AND ROLE PLAYING TYPES

Social science role playing types can be categorized into i) procedure, ii) process and iii) content types (Asal and Blake 2006, Moss 2006) depending on the intent of the simulation. The procedure type emphasizes interpersonal skills development (negotiation, listening, hermeneutical attention) with one-on-one interaction such as that in counseling. The process type emphasizes processes and institutions with attention to power relations. The content type emphasizes outputs such as policy, legislation, and agreements with attention to power relations.

All three of these role playing types have different advantages for the student learner. It is important for the simulation instructor to begin by focusing on one of these types as primary, in this case policy output, in order to exert more control and direction. If the instructor is confused as to the intent of the simulation, so too will be the students. It also becomes difficult to write up the original assignments as well as to balance the marking if you do not yourself know where your focus lies.

While the instructor begins with a focus on one type of role playing, for example, the policy aspects of the content-type model, and sets the students in this direction, policy simulations will automatically incorporate elements of all three types of purposes. That is, as students go through the simulation learning about policy, they will also learn about procedure and develop some interpersonal skills, and they will learn more about the policy processes, and the power relations between the institutions and actors. By starting with a policy output focus the instructor can leave off worrying about the other elements,

and the students will be exposed to both the processes and procedures without overthinking them in the beginning stages, arriving at the end of the simulation with enhanced knowledge of both of these elements which can be further drawn out in the debriefing stages of the simulation exercise. It is also easier, in my experience, to interest the students in a policy issue rather than a parliamentary committee meeting process or a listening procedure. The policy focus gives them something of interest with which to start their research and helps give them a sense that their familiar course skills, such as researching a policy issue, can be used for this unusual simulation exercise.

Even in courses I have taught on intergovernmental relations, I have found the policy focus a useful starting point as the important intergovernmental relations themselves will get played out during the simulation. Whatever the instructor's choice of focus, the three elements of content, process and procedure should be carefully (if not equally) balanced.

THE SIMULATION/COURSE BALANCE

Another balance which is important to the instructor and students is that of the simulation with the course itself. The instructor needs to decide whether the simulation is a small extra exercise in the course or whether the whole course will be designed around it. Either can be a valuable learning experience but here again the instructor needs to make this decision early in the design of the course rather than trying to force an ill-fitting simulation into a course.

Having said this, no course is likely to suffer much from the loss of one week, so the instructor may wish to experiment with a one-class simulation without being overly concerned. It is best in the beginning, I think, to keep it simple and contain it within one week for both psychological and organizational reasons (more below). This is how I began my simulations, taking one (2-3 hour) teaching slot and focusing on one policy problem. The mark consisted predominantly of a participation mark (more below). As I became more comfortable with running simulations, I extended them over three weeks of classes and began to tailor at least 2/3 of the course assignments around the simulation exercise, using it to bring together many of the main elements of the course.

In the case of a federalism course, because so many of the big issues around federalism relate to the relations and interactions between the two levels of government, the acting out of an intergovernmental meeting simulation brings out many of the elements of federalism you are wishing to teach in the course. For example, students playing the role of the peripheral governments in an intergovernmental meeting often comment that prior to the meeting they had known little about the smaller or less powerful governments or regions and their role in the federation. They also often comment they had greatly underestimated the influence and control of the government which gets to dominate the meeting agenda and act as its chair, as well as the control exerted by the political actors regardless of the level of high quality research from the civil service or external players on the policy issue. One student commented, "You can really see how the turf wars hijack the policy process." Others noted the strategies the smaller or less powerful governments used to gain influence.

In the case of a policy course, a legislative assembly or all-party committee simulation expands the student's understanding of the larger political and personal factors that come into play over and above what they often see as obviously sensible policy decisions, for example to clean up the environment or help impoverished children. In this sense it forms an important, even necessary, compliment to the standard policy cycles courses often taught in universities. Here, the assignments can be tailored to bring both the more rational and non-rational elements of policy making to the fore.

As one student put it, "The entire experience of participating in the simulation, from its earliest stages to the final adoption of a policy, highlighted many of the challenges in formulating policy... The most rational decision is sometimes superseded by the least divisive decision." The simulation helps demonstrate the central control of ideas. Students playing the roles of the opposition parties or peripheral players such as Aboriginals, women's groups or multicultural groups often comment after the simulation that they have gained a much better understanding of how difficult it is for these players to carry their ideas into the process, especially innovative ideas not sanctioned by the governing party.

In the case of the policy sector management course, the student body which is generally management based or management bound is keen to apply theory to practice and responds well to a chance to act out their policy ideas in a simulated reality situation. Here the key political decision makers (Ministers of Health), bureaucratic decision-makers (Deputy Ministers of Health), institutional leaders (e.g., hospital and homecare CEOs), provider governing bodies and associations (e.g., medicine and nursing), and public representatives (e.g., consumer or patient's rights groups) can be brought together in the simulation to interact in a much more complex manner than is generally understood by the students from the health policy literature. Policy management students, even those already working in management, often underestimate policy barriers.

As one student put it, "The simulation taught me that not only is it important to be patient it is equally necessary to keep my hopes realistic." For all three of these types of policy simulations, the students invariably say they thought knowledge and expertise played a much larger role in the governing or management process and that they had greatly underestimated the influence of power and of formal and informal relationships, or even emotions, among the key actors. They leave with a greater appreciation of the role of history, power, personality and the utilization of knowledge. They respond to the simulation by saying that they understand the politics of policy making better now.

As one student put it, "I enjoyed participating in the simulation exercise and it brought all the pieces together with respect to policy. I learned many things from this experience." Overall, student feedback from these role playing simulations has been overwhelmingly positive and has provided for a rewarding teaching experience.

Given the student feedback and the knowledge I see demonstrated on the final assignments for exams of the courses in which I have run simulations, I have expanded my use of simulations within my courses, weighting the balance more toward the

simulations than I had when I began teaching political science. I feel comfortable doing this because of the balance between my courses and the other political science courses in the student's degree.

Most of my students' courses conform to the traditional lecture/seminar/tutorial mode and they tend to be taught predominantly with the traditional teaching methods over the entire course of their degree, so the simulation helps offset that standardization. Overall though, it is important to keep a simulation/course balance. The simulation is only one element of a course and it needs to be integrated into the theoretical framework of the course. As one student put it, "Overall I found the simulation to be a great hands-on assignment. I also believe that without the theory learned in class we would not have been able to effectively execute or understand the simulation exercise. In my opinion, without the rational decision-making methods that we learned, we as a group would have lost complete control of the flow of the simulation. Even though at times things got carried away, we were able to bring it back on track."

BALANCING THE STAGES OF YOUR SIMULATION

As the literature on political science simulations points out, it is important to the quality of the simulation to distinguish between, and construct the elements of, the different stages (loosely, pre-simulation, simulation, and post-simulation) of an interactive person-to-person simulation. (e.g., Asal and Blake 2006, Wheeler 2006) The approach I have found most useful is to balance out the elements of each stage, as follows, 1) Pre-simulation (including early preparation and a week 1 intra-group and full class collaboration session, 2) Simulation exercises (including a week 2 Inter-group negotiation session and a week 3 Inter-group meeting, and 3) Post-simulation (including a debriefing exercise or assignment). Experience has taught me, as it has others in the literature, that it is important to prepare the students for the simulation, both psychologically and academically. Psychologically it is important to explain to the students that you are introducing an element of unpredictability into the course and they will likely find this somewhat unsettling but it will not affect their final grade. The education literature refers to this student discomfort (Wheeler, S, 2006, p.4) and some authors have noted that some students have trouble adapting to different learning experiences (Storrs and Inderbitzen, 2006).

I make it a point to warn my students that, depending on their personality type, some of them will find it frustrating to have to "go with the flow" but a) we are simulating reality and it is not as predictable as a political science course; b) I want them to feel some frustration since that is part of the point of the simulation given that that is how the political, bureaucratic and interest group actors feel in the real life events we are simulating, particularly the least powerful actors in the simulation; and c) the final marks in my courses are not lower than those of more traditional courses. (One student reported, "The simulation process of the parliamentary parties committee revealed for this participant unexpected feelings of enlightenment, frustration and collegiality that converged simultaneously.") I also tell the students that this is a good experience because they will be expected to go to meetings in any professional job and they will not, as new employees, likely have everything laid out clearly for them before the meeting. I also

report to them that some of my former graduates have told me they ended up in exactly the type of meetings we had simulated in class and those in real life were very much like our reproduction, both exciting and frustrating.

One student who played the role of an Aboriginal representative into an all-party policy committee meeting commented, “It was quite a learning experience. I left feeling very frustrated... All in all it was an enlightening learning experience. I can just imagine the scrimmaging and strategizing that goes on in the halls of Parliament. I can’t wait to become a player in the game some day.” With regard to reduced workload, it is helpful to make use of two of your course assignments for the preparation and debriefing stages of the simulation, with clear directions as to how the students will be evaluated. The three stages need to be explained clearly to the students and an assignment sheet handed out on each. The process and assignments I have developed for these policy simulations is as follows: PRE-

SIMULATION PRE-SIMULATION EARLY PREPARATORY STAGE

1. Briefly Explain the Whole Process at the Front End of the Course In the introduction to the course it is important to explain the simulation process and why it is you are using it. The above section of this paper on the Simulation/Course Balance contains the kind of reasons I use here, particularly their need to understand the role of power and human relations in policy development and the battering that reasoned policy arguments take in the policy making process. I also explain to the students that the political science education literature has demonstrated the efficacy of this mode of teaching and former students of mine have told me they found the simulations to be a valuable learning experience as well as a nice change from the usual essay or exam mode of evaluation. It is also necessary to explain to the students that if they cannot be available for the date of the simulation (and preferably the negotiation date the week prior), they should not take the course because they would have difficulty completing the required assignments properly. I inform them that the simulation is the equivalent of an exam and therefore mandatory. Because some students will likely exhibit some anxiety about this mode of learning, you might wish to be prepared to hand out detailed assignments at this stage.

However, I tell them they will be getting specific assignment sheets with all the details as needed and I use this time to reinforce to them that they will not know everything that is going to happen during the simulation and that I do not want them to, but they will know whatever they need to know in plenty of time to prepare for it. I find if I hand out detailed assignment sheets too early the more anxious student can now worry about the exact interpretations of these details. Reassurance that there is nothing to worry about seems to work better. I tell them they will just have to trust that it will be an interesting experience. And it will not be happening for a couple of months, so let us just relax and begin the course...

2. Pick the Policy Issue or Problem Depending on your own comfort level with preparation versus ad hoc course development, you may wish to decide which policy issue will be used in the simulation or you may leave this up to the students. If you do the latter, however, you may still wish to provide a list from which students can pick because

some policy cases work better at bringing out the secondary dynamics of the simulation, that is, the process and procedure dynamics over and above the content dynamics or policy outcome. If you wish to expose the students to cross-government or cross-party tensions, your policy case needs to be one where these dynamics are highlighted, for example, in a recent policy fight between the two levels of government or between left and right parties. Plus you may wish to bring both domestic and international elements into the simulation even though you will not be using international actors per se. For example, domestic policy on the environment will necessarily involve international actions and perspectives which the student can bring out in her or his research and simulation arguments. The same is true if you wish to emphasize management issues. In this case the policy you pick or the list from which you allow the students to choose needs to play out these dynamics. You need a case such as Health Care where there are some serious tensions and disagreements over policy management, implementation and/or evaluation. With regard to the balance between the instructor's role and the student's role with regard to the policy choice, I have discovered too that it is best to balance instructor's control and student choice. Once the students are pointed in the right direction, for example with a list of appropriate policy cases, they are likely to be more interested if they have some choice in the selection process.

3. Things to Do During the Regular Course Lectures As with any course assignments, the quality of the simulation is enhanced by the production of clear directions for the assignments. I give these out in sequence over the course with at least three week's notice, with the exception of the final report which I explain to students I do not give out in detail until the day of the simulation (see below). Depending on my student body, I find it useful to give research tips, preferably by bringing up the actual websites, on how to find government documents such as Supreme Court decisions and legislative and committee records which students do not always know how to find but which they may find useful in the simulation. I also demonstrate to them that you do not need to be a legal expert to garner some information from legal documents. (Rather than using the legal documents associated with our simulation policy case which I would prefer they find themselves, I like to bring up something like rent control laws and show them how they could figure out how to take action against their landlord if their apartment is freezing or rat infested.)

After the first class of the semester where the simulation is introduced and briefly explained I have found the students are always anxious to know the policy case being used for the simulation and to be assigned to their political party or government. I do both of these by the second class and tell the students I expect them to start watching the media and browsing the websites or newspapers for their government's party ideology and overall orientation toward policy. Some students will of course leave their research until quite close to the assignment but the point is really to help relax the students who are anxious about doing well on the simulation. To get this organized you need to compute the government or party composition for your simulation. In a federation, of course, the central and regional government units will be set but if your class size is smaller than the number of government units you will need to decide a reasonable weighting which will keep the simulation as realistic as possible.

Here, if need be, you can drop governments where their central issues and responses to this particular policy will likely be very similar to that of each other. If your class size is larger than the number of governments in the federation you can assign the First ministers positions first, then add on the other representatives who are not constitutionally part of the federation but have other claims to representation, for example Aboriginal governments, municipal governments, women's and multicultural representatives, and so on. You need to be careful here, however, not to upset the power dynamics of the actual formal governments in the federation who will be the real policy makers - this reality needs to be retained. The other useful addition for a larger class is to have the First ministers backed by either sectoral ministers or sectoral deputy ministers, or both. By including the Ministers responsible for your policy case, the students get the additional benefit of experiencing the power relationship between the first ministers and the ministers. By including the DMs of the sector, students get the additional benefit of experiencing the politics/administration dynamic.

For a simulation which duplicates a legislative assembly or committee reality, the actual party composition needs to be reproduced to match the percentage in the actual institution. I have found this does not always have to be exact but the power balance has to be retained and if you intend to have voting on your policy output you need to be conscious of adding extra players, for example an Aboriginal government representative or a party such as the Green party which fails to win a seat in Parliament but which has considerable popular vote. Too many added representatives can distort the simulation vote further away from reality than you might wish (although you can have them abstain from voting). It is also important to think through the repercussions of this weighting if you do not want your negotiations and simulation to become too predictable. For example if in reality you have a strong majority government in power, they may not need to win any votes in the negotiation phase since they can simply out-vote everyone else in the simulation, assuming they all vote along party lines. It is best in my opinion to worry less about the actual composition of the governments of the day and more about the simulation dynamics.

You do not want to flatten the negotiation and simulation experiences with predetermined outcomes. In the case of a large majority government I steal some of the majority's players and put them in as nongovernmental actors, while still allowing the governing party enough of a majority to demonstrate the power they hold in reality. With regard to the selection of particular players for each role, I have at times allowed students to choose their region (federal/provincial/ territorial) and their political party but this results in a scrum at the front of the class to get to the sign-up sheets and after the usual complaining about fairness from the students and discussions with former post-simulation students, I now have them pick their role 'out of a hat.' For a time I allowed them fifteen minutes to swap selections among themselves but now I do not often do this. The feedback I have received from the simulations indicates that one of the most powerful learning experiences is for a student to have to argue from the point of view of a party with which they do not agree and which they would have avoided representing if possible.

Several former students have recommended I suggest to students that they deliberately represent a party with which they have little sympathy. The instructor's role in this early preparatory stage is to organize and relax the students, telling them what to expect without taking away from the learning elements of the simulation which include some unexpected consequences. They should experience some "on the fly" reactions during the negotiations and simulation.

An element of surprise is not necessarily a bad thing, here. The best practice, in my experience, is to warn them that this will happen but not explain how it will happen. That is what they will be playing out and it will, at times, be both unpredictable and frustrating, but it will also be interesting and fun. As one student put it, "What I thought was going to happen was that the entire exercise would adhere to a precise agenda... But it was far livelier than I could have imagined!" another said, "The fun was had in taking political shots and scoring a point or two at the expense of the other side. This added to the liveliness of the discussion and drove home some relevant, partisan points." The student's role in this early preparatory stage is to sign up and begin to research the simulation role they have been assigned.

Often they ask if they are supposed to play the exact person who holds the role, of Prime Minister for example. I tell them, if they have a colourful character, such as our Alberta premier was for many years, they may wish to do so, but they may not know much about their politician's, or especially administrator's personality, so here it is more important to play out their overall political position on the left or right of the political spectrum for example - or in the case of the more neutral civil servant or manager, to play out their policy position. I tell them this does not mean they should eliminate emotional appeal from their simulation participation. In reporting on a class simulation, one student commented on "the passion in people's voices" she had noticed when attending a real political meeting as part of her preparatory research.

INTRA-GROUP AND CLASS COLLABORATION (WEEK1) As others have noted, methods of ensuring good research preparation for the simulation by the students can act as a quality control mechanism on the simulation. While we are demonstrating some of the irrational elements of policy in the simulation, we are also demonstrating the important role policy knowledge and expertise can play in policy debates. Students need to know what the experts are saying about their policy issue. As one student commented, "The simulation also taught me that when shaping a policy, the analysis of each policy is crucial to its success in the committee meeting." The gathering of good research material also tends to reduce potential anxiety levels on the part of both the students and the instructor. Research preparation is not something that it is wise to just "let flow." While there are always some excellent students in a course who will come to an event prepared, there will always be those who will not be very well prepared unless they are forced to be. This is where the sequence of assignments is useful.

The order I have found works best is as follows. In the three weeks which I block off from my regular lectures or seminars in order to run a simulation, the first week has evolved from an information add-on session at the end of a regular class, to an intra-

group collaborative and class informative session of its own. This is a time when students can engage in in-class collaboration with their own governmental, party or management partners as well as providing some preliminary information for the rest of the class on the broader orientations of the group they are representing. For example, for a legislative assembly or meeting there will be a number of students belonging to the same party and they will need to coordinate their efforts.

For an intergovernmental meeting there will be a number of students coming from either the federal or provincial/territorial governments who will need to coordinate their efforts. And for the health policy management meeting there will be a number of students who will be representing government, institutional, practitioner and public actors, so they too will need to coordinate within their group type. And since all of the students will only be representing and researching one type of actor (Federal government, Alberta government, Liberal party, Canadian Medical Association, etc) it is useful to have a member of each provide a general orientation or oral backgrounder to the class about the group. I have found this improves the quality of the simulation since the students then have a broader picture than that which their own research will provide, and it is in fact more reality based since any of these groups in real life meetings would know some basic facts about the other actors attending the meeting.

The intra-group collaboration and class information sharing week, then, requires that the students come prepared with enough background research to sit down with the other members of their designated groups and come up with the policy triage which they will use for the negotiations and simulation in the following two weeks. It also requires that each grouping of actors (government, party or other) be prepared to present a brief explanation to the class of their group's general orientation. I do not mark these oral presentations. If I have some free riders in the class, I give them a little prod to ensure their preparation and participation by either making their briefing note assignment due this week or by telling them the week before that I will randomly select a student to present her or his group's backgrounder to the class.

One problem I have experienced here is that the students tend to start giving their simulation group's policy case orientation rather than the political or generic policy orientation, when they are doing this class presentation. I ask them not to do "give away" their case study policy interests or triage on which they will be negotiating the next week and redirect them back to the larger dynamics that their fellow students will not be researching. This involves interrupting their oral presentation but since it is an informal presentation and has no mark they seem to take it in stride. I warn them before they begin that I may be doing this and they are not to feel insulted since we are all engaging in a new experience.

The instructor's role in this intra-group and class collaboration stage is to monitor the various groups of actors who will be meeting as a party, government, etc, in order to coordinate their research and come up with their policy triage list. It is best not to interfere with this list since it is part of the learning experience and later they will realize their arguments over which items take priority were not dissimilar to those between

political parties, governments, and other vested interests during the simulation. When the groups present their oral backgrounder, the instructor may have to supplement their comments a bit, depending upon their level of sophistication in understanding the political dynamics surrounding their group. This may depend somewhat on the course in which the simulation is situated. If the course is a policy course for example and the students have never been taught much party politics, they may need help with this.

Overall, though, the instructor's role during this week is essentially to monitor and reassure the students. The student's role in this intra-group and class collaboration stage is to come to the class with an understanding of the political and policy dynamics of their roles and enough research materials with which to work within their own group developing a policy triage for the next. They also each need to be prepared in case they are the one called on to present political dynamics of their group to the class. I recommend you have them make up tables for both of these requirements. Asal and Blake suggest a table for ranking party issues. (Asal and Blake 2006, p.13)

This can be modified for both the intra-group ranking and the presentation of the group's political stance and overall policy preferences. They can rough these out during this class, leaving room to add the rest of the class groups onto the table to use during the negotiation class. One thing that starts to happen in the intra-group and class collaboration stage of the process is that the student's roles begin to differentiate. Up until this point all of the students have simply been conducting their research and working on their individual assignment but on the day of the group meetings where a policy triage needs to be decided on by the group, power differentials may begin to show up. The more powerful players may decide to use their power at this stage to dominate or have the last word on the policy triage (then later in the negotiations and simulation).

This, of course, would be legitimate given that the real-life pre-simulation decisions would certainly play out these power dynamics within the groups. For my part, I have found it best not to interfere at this stage even if one of my powerful politicians is acting suspiciously consensus oriented. I simply make mental note of this to keep an eye on it for the negotiation process where I might take the leader aside and suggest she or he may wish to be rather more forceful, given the strong character they are playing and the position they hold at or near the top of the political hierarchy in real life. The danger here is that you do not want the student to begin to dominate the simulation processes to a degree that shuts out the participation of the other students in the group. Again, it is a matter of striking the right balance.

SIMULATION STAGE, PART I: INTER-GROUP NEGOTIATION SESSION (WEEK 2) This class is dedicated to the first phase of the role playing where a negotiation process takes place among the groups and various actors (some of whom in a small class will be individuals representing a group). This class provides the students with an opportunity to play out some of the pre-meeting political dynamics which often occur prior to the major policy meeting. Behind all of these formal institutional meetings are a series of informal negotiations among the players. Engaging in role playing at this stage of the process

provides the students with both more political acumen and a “dry run” for the simulated policy meeting.

Since the negotiation phase is less formal than the meeting phase, it helps ease the students into the role playing without having the instructor and the whole class hearing their every word. The purpose here is to try and have each of the groups win votes for their preferred policy triage. The governing party group will be looking for backers for the triage for which they will be pushing during the simulation policy meeting. Other groups will be deciding whether or not to back those in power as well as which groups or individuals they might be able to bring on board in order to oppose the governing party during the policy meeting.

One student had this to say about the negotiation stage, “After the negotiation session, I felt as if I had had an opportunity to air my concerns to my constituents. There was a feeling of progress made and a general understanding of what issues were to come forward (in the simulation meeting the following week). This negotiation session was important as it helped to shape the simulation meeting. Although we left with nothing concrete (decided), all of the parties at least were on the same page... During the negotiation session I learned that listening to key stakeholders was important... The session taught me that parties that are not in power tend to feel alienated and unheard. The official opposition is the least able to steer the agenda but when you are a member of the smaller party you will try to band together with other parties that are in the same situation.”

At this stage I sometimes move the students to in a more informal setting if it is available so that they get a better sense of the informal, quasi- social atmosphere of the real-life negotiations, which in many cases actually take place in a bar or pub the night before the formal policy meeting. I have used this setting and it works wonderfully but I am always a bit anxious about it. (I make a point of telling them that coffee and nonalcoholic drinks will be served, but I do not make their choice for them, so I also make a point of saying I assume none of them are driving home unless they have been drinking non-alcoholic drinks. I have wondered whether I ought to have them sign a memorandum of agreement.)

Unfortunately whenever I have chosen to have them stay in one of our over-lit fluorescent classrooms and proceed with the negotiation process in one large room, the mood has been less than impressive. A pub with dim lighting and little cubbyholes is just right for the sort of secretive, looking-over-your-shoulder kind of political negotiations in which I want them to engage. The instructor’s role during the negotiation phase is one of monitoring and addressing the concerns of the role playing participants. Plus, the instructor needs to speak to the government or party which will be chairing the policy meeting (except in a legislative assembly where the instructor needs to act as the Speaker of the House), that is, the central government for the intergovernmental meeting, the governing party for the assembly for committee meeting, and the government Minister (of Health) for the policy management meeting.

These policy meetings could also be co-chaired with a representative of the regional governments, the opposition parties, and the hospital or medical administrators, but I prefer to keep it simple here. If the simulation is to be run in three hours or less, the introduction of another chair may result in a timing problem. The instructor may choose to act as chair in all cases and I have experimented with this, but I have found it best (except in a legislative assembly meeting) to let the lead government or party play this role, since it enhances the power dynamic among the players.

When speaking to the student who will act as chair, (i.e., the Prime Minister, party leader or Minister of Health) you need to reassure her or him that they will simply be taking the lead off their triage list and that you will be sitting beside them and will give assistance with a quick whisper or a note if they need help in directing the session. My experience has been, as long as you carefully pick the student (more below), there is very little need to intervene. Aside from this, it is important for the instructor to maintain a certain distance during both the negotiation and meeting phases of the role playing. Some students will ask for more direction than is appropriate. In this case I find it is best to tell them to just let the process flow and not worry overly much about controlling it. (I use the word “relax” a lot.) If they simply play their role, the dynamics will take care of themselves - they are what they are. I sometimes have to reassure the more perfectionist students who prefer a high degree of control over their course work that they are not being marked on the dynamics of the process per se. I am only expecting them to participate intelligently at this stage. They do not control the outcome nor is their mark contingent on it. (This is unlike the types of simulations, for example in international relations, where there is a debate and there will be winners and losers.

In this case some instructors do add bonus marks for winning.) This is an option here, of course, but I prefer to have all of the students more focused on watching the dynamics than winning the contest. For me, the learning experience is more important than the policy outcome.) The student’s role during the negotiation phase is to be prepared. Each student must by this time have a good sense of both the political dynamics and policy particulars, especially their own group’s preferred triage, in order to engage intelligently with the other groups in arguments about supporting their policy choices.

During the negotiation session, the students must be willing to begin their role playing, since they will be “wheeling and dealing” during this session. This means the more dominant players in each group (the Prime Minister, party leader or Minister of Health) may direct the negotiations or may leave it up to his or her group members to attempt “buy ins” which they then report back to the leader. The participants also need to keep a few brief records of the negotiations in order to make use of them during the policy meeting simulation and the debriefing report. This, again, entails a certain balance. The primary focus of the student at this phase is to experience the negotiations rather than to intellectualize them. However, as one student put it, “(For the simulation), parties must have a broad knowledge of their opposition’s goals and mandates in order to succeed in their own goals and mandates.” If the students are too busy taking notes their role playing will suffer, but if they take no notes at all they may have difficulty remembering what the negotiated agreements were.

I tell them to focus predominantly on the oral negotiations and only secondarily on note taking. If they are using the tables they created for the previous week's intra-group session, they can fill these out by hand as they finish a negotiation session with one group, before they move forward to their next group. You might ask a volunteer from each group to type this table and distribute it to their group for the next week's simulation. (Some students may well have a portable computer with them during these sessions so the tables might also be created on site.) This typed version would also give you, the instructor, an "at a glance" reference to the potential dynamics in the policy meeting simulation.

SIMULATION STAGE, PART II: POLICY MEETING (WEEK 3) The simulation meeting runs according to the structure and dynamics created thus far. The groups arrive at the simulation prepared for a policy meeting which will have the lead government or party trying to get support for a list of policy proposals. It is up to the instructor as to what the output of the simulation will be. Various models are discussed in the literature but for a policy simulation it would seem preferable to be developing policy. This may be as simple as a communiqué released to the public listing the priorities of the collective (i.e., the members of the federation, the government and opposition, the all-party committee, the management committee, and so on).

A "settlement" simulation, as it is called in the literature, simply needs to settle something. This may either be very specific, for example how to manage the decline in availability of physicians in a region; or it may begin quite broadly and then narrow during a simulation. For my broader political simulations I prefer to start with a general policy area such as the environment or sub-area such as climate change and let the students do the narrowing throughout the whole three week process. This is why I have the students make up a triage list in week one, ranking the policy issues arising in the policy area on which the simulation will focus. This means they have to think through the case study and dissect and weigh the various policy issues rather than having them provided by the instructor.

The advantage of this is i) They are actually engaging in a policy making process; ii) They will have better background research in preparation for the simulation; iii) There will also be more variation between the groups - a fact which enhances the quality of the simulation debates; and iv) It gives the instructor an indication of how well they have understood the politics of their group. Clearly, the instructor may wish to speak to a Conservative party group who appear in the negotiation class to have a left wing ranking of policy priorities. I find that if the instructions and assignment sequence lead them from the political to the policy rather than vice versa, this is not a problem. This is why I do not start their research with the policy issue per se.

Even for the management simulations, the students, working in groups, can come up with the key policy issues of concern to management of their sector, rather than having these provided for them by the instructor. If the students have been on board from the beginning, developing these issues and then negotiating with other groups above their

trriage, the backdrop has been set for the simulation and my experience is that it virtually runs itself. The instructor should also decide ahead of time what format the settlement will take. Will it be decided by vote or by consensus? This may come down to a question of time since the vote is much quicker. However, the consensus process extends the group engagement. If you are using the vote, it is useful to have a table ready to record the votes, since they will be needed for the debriefing.

The question may also arise about abstention from the vote. I have learned not to allow this because it throws off the power weighting I had set up in the choice of numbers in each group prior to the simulation. Some students have also suggested using Robert's Rules of Order but I have resisted this because I want more control over the participation. If the instructor is not free to interject during the proceedings you tend to get a high level of participation from the more vocal actors (exacerbated by the fact that you have chosen to place them in the more powerful positions) with a low level of participation by some of the actors who may not under Robert's rules be able to get much said at these meetings.

This may approximate reality but it leaves too many students out. This is why I act as at least a second chair or moderator in all of the simulations, because then I am free to override the speaking list when an exceptionally quiet student finally puts up his or her hand to speak. I explain to the class that I will be doing this when I deem it necessary. Regarding formality and informality in general, again I would recommend the best practice is a balance of the two. If the process is too formal it can become stiff and if it is too informal, the quality may suffer. My practice is to set a fairly formal atmosphere for the opening of the simulation so that it does not break down with overly friendly chatter and disruption. (The participation mark also helps here since you can explain that the mark will be based on the quality of the students' remarks not the quantity.) I ask the students to dress as the participants of the real meetings would, with business attire, and while a few students invariably come dressed in sweatshirts, enough of them wear a suit to give a feeling of seriousness to the proceedings.

Likewise, I dress formally and leave the room just before the simulation to return with formal demeanor and remarks. The students then take on the same seriousness for their opening remarks. While there is occasional laughter over some of the role-playing (I once had one of my western premiers show up in a cowboy hat, quite appropriately.) which helps lighten the atmosphere a bit, overall the injection of some degree of formality signals to the students that they are expected to perform as professionals. Simplicity and complexity also need to be balanced in the simulation process.

The students sometimes begin to operate at either a rather too general or rather too specific level and end up out of balance. This generally shows up early in the negotiation phase where the instructor might overhear the students engaging in extensive debate and negotiation over speeding tickets when the policy issue is crime prevention. While some of this is fine, it can end up in too little preparation for the big issues which need to be discussed and debated in the simulation. The same is true for the opposite, where the students might end up in the simulation failing to come up with too little relevant research on particular policy issues. This too can be averted early on by the instructor by

a background or briefing note assignment which would be completed and handed in prior to the simulation to ensure the quality research is there.

Another balance that needs to be made here is that between reality and innovation. The students will by this time be well researched in the real policy stance associated with their role but they may also wish to introduce some new ideas of their own. I tell them it is important to begin with their government's or party's actual stance on issues, but they may then supplement their research with some of their own ideas. Here I suggest that they cue the other participants (and the instructor) by phrases such as, "Our party has just recently come up with some new ideas on this issue..." I also say I would expect any such innovation to be informed by their research on their government or party and not just uninformed coffee shop opinion - the kind they had before they ever took the course.

This becomes more important if the marked assignments are not related to the simulation process and if the simulation itself carries only low participation marks, since this is more likely to result in free riders filling in the simulation with less than educated comments. The more integrated the simulation is with the marked assignments, the more seriously it is taken by all of the students. Another related balance to keep in mind for the simulation exercise is that between the history of the policy issues and contemporary developments. I expect the students to be up to date on the issues, although they may make use of historical arguments and events if they wish. On the occasion when there is an event which changes the nature of the composition of the actors in real-life, for example if an election is being held just prior to the simulation, I have had to remember to tell the students that this will not affect their preparation – even if they have just been voted out of office in real-life. They can be quite literal at times.

One of the balancing issues of a simulation over which the instructor will have no control is that of the various types of students in the course. I have already made reference to the needs of the more anxious student vs. the more relaxed student; the more prepared student vs. the free rider students; the high attendance student vs. the low attendance student and we have seen how some of these needs might be meant. I also made reference to the instructor's need to have a more vocal student who is comfortable speaking to the group in the lead roles, particularly that of the dominant government or party leader who will be chairing the simulation meeting. I have learned from experience it is important that the instructor not leave this choice up to the students.

Despite warnings that I needed a strong actor for these key roles, when I allowed the students to volunteer for these positions, surprisingly some of the quieter students in class have done so. This did not work well in the simulation. I ended up having to take over the chairing role to a large degree. The same has been true for the situation where, in a small class, the extra players such as the Aboriginals or municipal governments are played by one person. Here again, this student needs to be comfortable speaking out or the role may as well be dropped. Now I do a little prodding of the more vocal students and then ask for a number of volunteers from whom I can choose for the leadership roles. I also wait to assign these key roles until I know the class somewhat in order to ensure they will be filled by a strong character. The quieter students generally feel better in a larger group

or playing the role of a public servant, which becomes more of a research advisory role. Although, if I have a tiered representatives in the policy meeting (say the Prime Minister, Minister of Finance, Minister of Intergovernmental Relations, Minister of Environment, and Deputy Minister of Environment), I offer the students with the quieter or more research-oriented roles the chance to switch up to the conference table part way through the meeting if they wish to do so since they sometimes report feeling left out of the power dynamics being played out by the students assigned to the key roles. (Have the Prime Minister take a long telephone call.)

The less dramatic sectoral minister or deputy minister role can also be balanced out somewhat by allowing these players to pass written comments up to the prime minister or other key player during the simulation and then have them collect and pass on these written comments to the instructor at the end of the simulation. This way they feel their participation mark has been more fairly assessed. The other reason I like to do a certain degree of assigning of key roles is that it allows me to ensure a better balancing of the gender and ethnic composition of the class.

To begin with, when setting up the roles I simply tell the students I do not want to see all of the positions of power being held by white males – however true to reality this may be. If the body of volunteers from which I make my key-role choice is too masculine, as it often is if left up to a volunteering process alone, I lobby the more vocal women in the course or I simply designate particular roles as female. The ethnic composition, of course, has to be dealt with more subtly but here is where I like to leave myself enough control in the selection process to allow some massaging along these lines. Students interested in this dynamic often volunteer to represent the Ministry of Multiculturalism, for example. When combined with the encouragement of policy ideas related to gender, ethnicity, sexual-orientation and so on, this results in more participation and inclusion of alternative or marginalized actors and ideas throughout the entire process. Any other variation within the student group can of course be dealt with the same way.

The holding of the simulation per se helps provide a balance for the students who perform better orally than in written form - a group who are highly discriminated against in any university with all its written assignments and exams. The professional student/academic student balance is also righted somewhat in the simulation because the professional students (in my university's public administration programs for example) get a chance to display and get credit for their professional skills in informal negotiation sessions and formal meetings – rather than always conforming to the standard academic seminar format. Whatever the mix, I have found steps can be taken to ensure a balance of participatory input and inclusion.

The instructor's role in the simulated meeting is to monitor and provide back-up administration duties such as making sure the policy discussion stays on track and participation is recorded if it is being graded. If a legislative assembly is being simulated the instructor fulfils this role while acting as the Speaker of the House. The important balance here is between non-interference and ensuring the process does not get bogged down. I have the students raise their hand to indicate they wish to speak; I give them a

nod and then keep to this order except to balance the strong vocal participants with the quieter participants. (I tell them ahead of time that I will be doing this in order to allow for as much participation by all of the students as possible.) I also feel free to interrupt very briefly, especially to impose a strict time limit on the opening statements, but also to redirect a session. Both can be done unobtrusively by a note or quick comment to a particular participant rather than interrupting the session as a whole.

Some authors recommend stopping the process to comment on dynamics, but I hesitate to interrupt the flow of the simulation. I find this sort of lesson-learning interruption reminds the students they are students and brings them out of their role playing. For me the mood and pretense of reality in the simulation is important and a try not to interrupt it. Lessons can be made in the debriefing rather than in the simulation itself. The student's role in the simulated meeting is to demonstrate their political and policy knowledge. Each group prepares a brief statement with their government's or party's position for which they are allowed five minutes at the opening of the meeting. I tell them to watch televised legislative debates and news clips of their politicians and note the tone of their speeches, as well as reading their website "brag sheets" for the same. I also tell them it is fine to get a few "digs" in at their opponents during this little opening speech. This sort of role-playing makes the process a little more relaxed and fun.

After the opening statements, the floor is open to debate and it is up to each student and his or her group to put forth their best arguments and counter-arguments to the policy choices proposed by the governing body. This moves along at a good pace, since the students are eager to demonstrate all the policy research they have in front of them. As one student put it, "When the debate occurred, I learned that you really had to stay on your toes and think quickly in order to rebut." At the end of the session either consensus is reached on a number of issues or a vote is held and the majority wins. This can result in rejection of all of the proposals on the table but that result must be accepted.

POST SIMULATION STAGE: DEBRIEFING

There appears to be a strong opinion in the literature that students benefit from follow-up to the simulation (see review in Wheeler 2006, p.6). Recommendations for debriefing vary from group debriefing sessions to written reports, including "reflective diaries." (Moss 2000, p.480) Feedback from my students would indicate that this is true. In my simplified earlier versions of the simulation which were contained in one week I did not use any debriefing session per se, although I would recommend they think about the lessons learned during the simulation when they studied for their final exam, and tailor a question toward it.

Students began to tell me they thought we should discuss the simulation the week after it had been held. They said they felt they had been left hanging if we did not have some follow-up. I began to either discuss the simulation in class or assign a post-simulation report which would force the students to think through the lessons learned. I now tend toward the latter because it is a more systematic follow-up than the loose class room discussions and it does not take any more class time, if there are other subject materials I would like to present. I keep the report simple. In fact, I generally ask one question, for

example, ‘What did the simulation exercise teach you about how parliamentary parties might shape a policy?’

Here I add a note saying, “You might think about how it both included and went beyond some of the careful, rational decision-making methods we tend to think are followed in our formal institutions.” Their responses indicate most of the students gain considerable knowledge from the simulation, even the poorer, less-interested students in the class who often report they enjoyed the simulation. The instructor’s role in the debriefing stage varies depending on which type of debriefing method is chosen. (Smith and Boyer give a set of guidelines for debriefing.) If the instructor wishes to take the time to have a class discussion, of course, she or he needs to be comfortable doing so, so the formal report may be more attractive in the beginning. Even with the latter, it is important for the instructor to allow a certain degree of artistic freedom in the report since it is based on student perception and they will have had limited time to have taken notes during the simulation. I tell the students there is no right answer to the report question but rather they are documenting their own learning experience and the knowledge they garnered.

The student’s role in the debriefing, of course, depends on the method as well. Either way they need to feel free to comment, even criticize the proceedings. They do need to treat it as a serious assignment, particularly as it may form the substitute for a final exam. Unlike the exam, however, the work they put into the simulation itself, along with their participation mark, constitute some of the weight given to the final report. In that sense they have less riding on the final assignment than they would with an exam.

THE ROLE OF TECHNOLOGY

One question that arises in the running of the person-to-person simulation is whether or not to make use of technology. While it is not necessary to do so, Blackboard and Internet technology can make the exercise easier, particularly in having the student groups communicate with each other. (Many report using Facebook as well, although I do not get involved with this.) Blackboard also allows the instructor to send out class emails if anything is going awry and to send it to tables recommended above. Having access to the Internet in the classroom allows the instructor to bring up the websites the students will need for their research and discuss the biases in the different sites. A film on the process, for example an intergovernmental executive meeting, is also useful and entertaining, given the subterfuge and backstabbing that often goes on at such meetings.

The student media can also be put to use if one wishes to have them simulate a media scrum at the end of the simulation and actually report in the student press on the simulation. If the instructor should have journalism students in the class, they could play this role as an alternative to the other roles played by the students. They could watch the simulation, interview some of the key players, and then write a press release as their report assignment.

BALANCING THE INSTRUCTORS TIME AND WORKLOAD

The amount of time it takes to design, organize and run a simulation varies greatly depending upon the level of ambition of the instructor. Some estimate that a simulation

increases the workload by 50% (Austin, McDowell and Sacko 2006, p.232), but this is not been my experience. If the instructor introduces a short simple simulation with a short simple assignment or participation mark, and uses minimum handmade props and note taking tables, it need not entail clearly this amount of workload. The original run will, of course, take more effort, but this diminishes greatly even with the second running of the simulation. Plus, the instructor can look for ways to minimize workload. One important tool for balancing the instructor's time and workload in running a simulation in class is to tailor the assignments toward the simulation in a way that decreases the marking load since these assignments will then be focused on one policy case and follow a sequential development.

There is no reason why all of the course assignments cannot be tailored to fit the simulation if the instructor chooses to do this. This means there is a certain flow to the marking which forms a picture of the student's progress and which I find less time consuming to mark than separate test, essay and exam assignments. In my experience, the extra work the instructor puts into preparation pays off in the marking. The other helpful tool if the class is small enough for the instructor to keep track of participation is to use a participation mark (for both the negotiation and simulation) as one of the assignments. I simply keep track of all of the participation in the simulation using a checklist. I have developed little tricks for this.

The other element of the participation mark is that as the class gets larger the instructor may, as mentioned above, wish to set up an inner circle of verbal participants and an outer circles of participants down the hierarchy who can then feed information in the form of written notes to the executive level during a simulation. These notes do not require marking per se; they may simply be used to enhance the final simulation mark. Once the instructor gains some experience with the simulation, she or he will likely get fairly adept at evaluating that the participation using a student list and a series of codes, for example, "h, m, and l" for high, medium and low quality remarks during the simulated negotiations and meetings. The more I have run simulations, the more I find they only constitute a modest degree of extra workload, although the instructor needs to be prepared for the high energy day or days when the simulations are run. These, for me, are offset by the extra work and energy the students appear to be willing to put into the exercise. We do have fun.

CONCLUSION

Public policy simulations can be both effective and manageable with a relatively small amount of preparation or ambitious start-up - keeping it simple and building up to whatever works. The important thing is to keep everything in balance. In choosing a policy process to simulate, whether it be an intergovernmental meeting, legislative assembly, all-party policy committee, or policy sector management meeting, the instructor needs to keep in mind the added dimensions of the policy process illustrated by that choice. Will it balance the overly rational and overly institutional focus of most policy textbooks with the power dynamics and personal relations of the policy making process?

Similarly, in choosing the simulation and role playing type - a procedure, process or content simulation - the instructor needs to focus on one type and then balance the other two in secondarily. Once the model and type of simulation is chosen, it needs to be balanced with the framework and the assignments of the course.

In a policy-oriented course, most, if not all, of the course assignments can be tailored to fit both the simulation and the overall course materials. Even in an intergovernmental course, assignments can be designed to bring out the dynamics of intergovernmental relations while working through an intergovernmental policy making process. Lastly, in terms of structure, the instructor needs to balance the stages of the simulation (pre-simulation, simulation, and post-simulation) and the elements of each stage (including early preparation and a week 1 intra-group and full class collaboration session; a week 2 inter-group negotiation session and a week 3 inter-group meeting; and a debriefing exercise or assignment).

Throughout all this, the instructor needs to balance the instructor's role with the student's role; preparation with role playing; graded with non-graded work; left with right politics; politicians with administrators; power players with weaker players; reality with innovation; vocal students with non-vocal students; experiential learning with standard learning; instructor control with student control; administrative control with content control; record taking with simulation participation; formality with informality; simplicity with complexity; history with contemporary realities; leaders with followers; free riders with serious students; males and females; technology with personal interaction; and last but not least, (for both the students and the instructor) human anxiety and fear of the unknown with some predictability and excitement.

The best practice is a balanced practice. If the simulation is thoughtfully designed into a course and run with these balances in mind, it should provide a valuable learning experience for the students (and instructor) without too much time and anxiety for the instructor. Student feedback over the course of ten years of running role playing simulations in federalism, public policy and public management courses has been overwhelmingly enthusiastic for this mode of learning and has provided me with the motivation to continue to engage in this practice.

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i I would like to thank James Simeon who passed the original intergovernmental simulation on to his University of Toronto graduate student Gregory Inwood who brought it to Ryerson University and then passed it on to me and encouraged me onto this path.

ii Since I teach Canadian politics, my nomenclature will reflect this, but the same findings should hold true of other western style democratic government institutions. The historical dynamics such as the balance of power in the major political institutions – Canada’s Prime Minister vs. Premiers; House of Commons vs. Senate; Liberal party vs. Conservative party–will vary, but these country-specific dynamics will be inevitably played out during the simulation since the real-life participants are designed into it. So these differences should not affect the recommendations here.

iii For example, I have the students add their names (“Minister of Health Jones”) to the nameplates I provide (or simply provide paper and markers and have them make their own nameplate). One thing to watch here is that you will likely use their last name on the nameplate since it fits the formality of the simulation but you may have learned the students’ names by their first name. One trick is to have an alphabetized list by first name, followed by the last name, in front of you during the simulation so that you can quickly check the sheet for the unfamiliar last name when they speak. Your student chair will also likely need the nameplate and a similar list since she or he may not know all of the names of her or his fellow students, in a class of 40 or 50 for example, and if the chair does know the names it will likely be the first name not the last.

Researchers and Policymakers Travelers in Parallel Universes

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Abstract: Public policy, in the form of laws, guidelines, and regulations, has a profound effect on our daily lives and health status. Reasons for a lack of consistent and systematic translation of public health research into public policy is examined, including differences in decision-making processes, poor timing, ambiguous findings, the need to balance objectivity and advocacy, personal demands of the process, information overload, lack of relevant data, and the mismatch of randomized thinking with nonrandom problems. Next, several actions are suggested that should help bridge the chasm between science and policy, such as greater involvement in the process, better understanding of political decision making, building of effective teams, and development of political champions. Scientists are obligated not only to discover new knowledge but also to ensure that discoveries are applied to improve health.

(Am J Prev Med 2006;30(2):164–172) © 2006 American Journal of Preventive Medicine

Introduction

Public policy, in the form of laws, guidelines, and regulations, has a profound effect on our daily lives and health status. Public health research provides a foundation of scientific evidence on which to build public policy. For example, in a smoke-free work site, the clean indoor air is largely due to epidemiologic studies of secondhand smoke and lung cancer in nonsmokers.^{1,2} Numerous studies have shown that use of safety belts is the single most effective means of reducing fatal and nonfatal injuries in motor vehicle crashes and safety belt laws over the past few decades have prevented thousands of deaths.³

Others have written about the compelling linkages between research and public policy in advancing the health and well-being of populations.^{4–6} Indeed, Teris⁴ has suggested that health policy should be based on public health sciences such as epidemiology. Even when research findings from research studies are clear and consistent, there are often multiple policy options.⁷ There is often little correlation between the quality of science and the policy derived from it.⁸ Research among senior policy advisors has lamented that “policy-

free” evidence is common and that many researchers do not see it as their responsibility to think through the policy implications of their work.⁹ This suggests that researchers need to communicate more broadly to a variety of audiences beyond other researchers.

When considering the connections between public health research and public policy, two important questions arise:

Why don't we see consistent and systematic translation of scientific studies into public policy?

How might the interactions between researchers and policy makers become more productive and relevant to the problems encountered in communities?

We seek to shed light on these and related questions. It is worth noting that in this article, a “policymaker” is an individual elected or appointed to office at some level of government. Also included are executive branch chiefs of staff and staff assistants who often play major roles in the policy process. New areas such as social determinants research^{10,11} recognize that many policies affecting health are developed and promoted in sectors outside of public health and medicine (e.g., economics, urban planning, housing, education, commerce).

What Are the Major Challenges?

The challenges in successfully translating scientific evidence into appropriate and effective public policy are substantial. To better understand the policy process, it is useful to consider the phases through which policies and programs pass over time.^{12,13} Brewer and deLeon¹² proposed a six-stage policy process (Table 1). This framework illustrates the complexity of policy science,

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Table 1. Policy analysis process

Phase	Examples of activities
Initiation	Creative thinking about a problem Definition of objectives
Estimation	Tentative and preliminary exploration of concepts, claims, and possibilities Thorough investigation of concepts and claims Scientific examination of impacts
Selection	Normative examination of likely consequences Debate of possible options Compromises, bargains, and accommodations
Implementation	Decisions among options Development of rules, regulation, and guidelines to carry out decision Translation of decision into operational terms
Evaluation	Setting up program goals and standards, including schedule of operations Comparison of expected and actual performance levels according to established criteria
Termination	Assignment of responsibility for discovered discrepancies in performance Determination of costs, consequences, and benefits for reductions or closures Amelioration as necessary and required Specification of new problems created during termination

Adapted from Brewer and deLeon.¹²

along with the many activities that may take place and the obstacles that may occur during any of the six phases.

In light of a complex and ever-changing process, eight major challenges follow to both scientific and policy-related professions.

Clash of cultures

Perhaps most importantly, the decision-making processes for researchers and policymakers are significantly different. This involves both the “real-world” steps in decision making (Figure 1) and differences in a number of characteristics that drive decisions (Table 2). Researchers rely on experimental and observational

studies to test specific hypotheses in a systematic way.^{14,15} Their influence is based on their specialized knowledge. On the other hand, policymaking is built on a history of related policies and demands from stakeholders.⁸ Policymakers have to sell, argue, advocate, and get re-elected in light of available political capital. Decisions are often the result of compromise. Their interests are often shorter term and keyed to an election cycle.

Even in light of sound scientific data, ideas are sometimes not ready for policy action due to lack of public support or competing policy issues. Policymakers face numerous challenges in a complex process that includes choosing the right policy action and ensuring

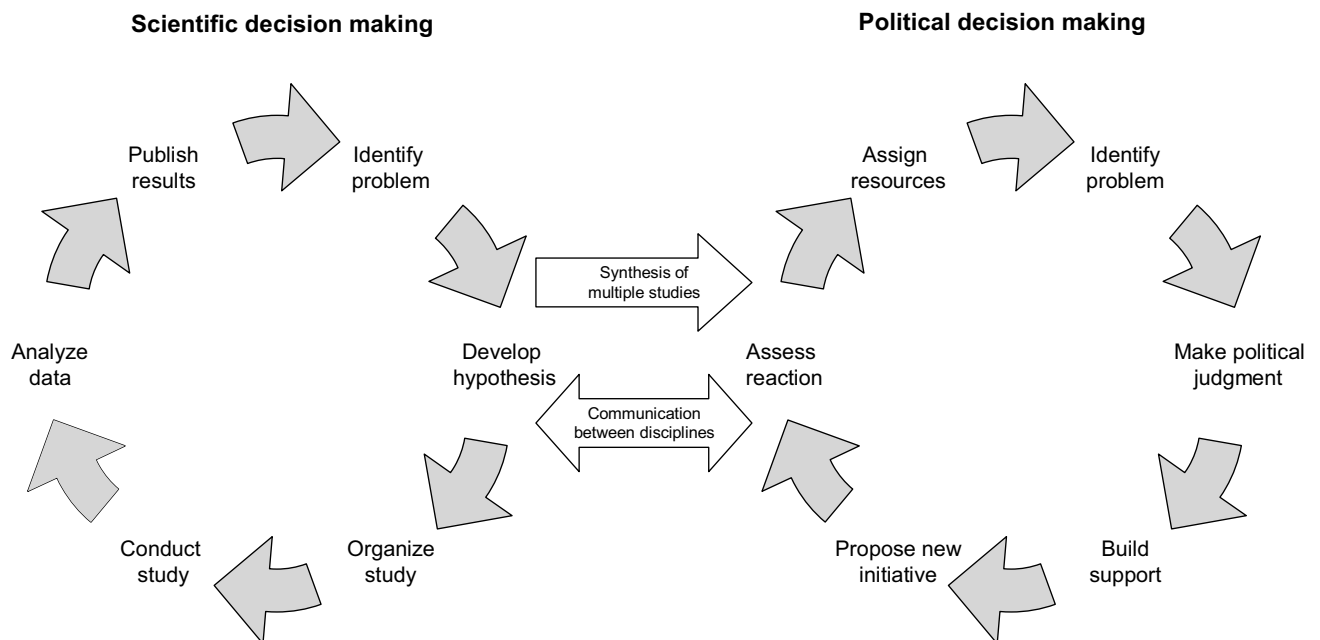


Figure 1. The “real-world” process of decision making in science and public policy.

Table 2. Differences in decision making and persuasion among researchers and policymakers

Characteristic	Researcher	Policymaker
Major incentive(s)	Grants, publications	Re-election, recognition
Opinion leaders	Leading scholars	Civic leaders, contributors, political leaders
Connection with advocates	Weak	Strong
Accountability	Editors, funders	Political parties, government, taxpayers
Knowledge span	Deep knowledge on narrow issues	Less in-depth knowledge on a wide array of issues
Willingness to accept uncertainty	Lower	Higher
Type of data relied on	Science, empirical studies	Science, the media, “real-world” stories, trusted advisors
Common methods of receiving information	Journals, scientific meetings	News media, staff, colleagues
Timeframe to action	Long	Short
Importance of disseminating results	Low to moderate	High

its implementation. The process often involves the important obstacles of dealing with the formulation of laws and rules, the court system, and the various bureaucracies within government. Termination of a policy, whether based on science or not, is often more difficult than initial enactment.¹⁶

Poor timing

Scientific studies are not always conducted at the right time to influence policy decisions.^{17–19} Research tends to progress in a deliberate, although not always predictable pace. The steps in the research cycle are shown on the left side of *Figure 1*. Frequently, research projects take 3 to 6 years to complete, and as many as 8 to 10 years may pass from the time of the initial hypothesis or research question to publication and dissemination of findings. Contrast this with the policy process, which moves much more quickly, and where public officials are elected every 2 to 6 years and often are dealing with hundreds of policy issues in a single legislative cycle. By the time that research findings are adequate to support policy changes, the political and social climates may not be receptive or the issues/problems may have subsided or disappeared from the venues of where public concerns are aired.

Ambiguous findings

Policymakers often become frustrated with the ambiguity of findings that researchers present (e.g., “confidence intervals” around their estimates). Policymakers prefer “point estimates” (e.g., a precise estimate) of the effect. For example, while projections of budget numbers for health programs—such as the numbers of persons who will be enrolled in these programs—are uncertain, policymakers often vote on the precise estimate of the number of people affected. The Congressional Budget Office, which is charged by the Congress to project future changes in the budget, has for years documented the difficulty in projecting future health costs of Medicare and has explained that their projec-

tions are uncertain.²⁰ Nevertheless, when Congress passed the Medicare Modernization Act, they passed the policy with a single point estimate of budget costs, not a range of budget estimates.

Balancing objectivity and advocacy

There have been considerable dialogue and disagreement among researchers regarding the degree to which scientists should be involved in the policymaking process. The differences focus largely on the role of scientists as advocates. Even the definition of advocacy is ambiguous,²¹ ranging from raising awareness of an issue, to communicating research results to policymakers, to actively lobbying for a particular policy. Some argue that researchers who take a public stance on a given health policy issue may face real or perceived loss of objectivity that may adversely affect their research.²² Objectivity implies that a researcher seeks to observe things as they are, without falsifying observations to match some preconceived view. Objectivity may be influenced by the research questions in which a researcher is personally interested.²³

Some argue that researchers have an obligation to be involved in policy development. In fact, the ethics guidelines of the American College of Epidemiology²⁴ call on epidemiologists to “report research findings in a timely, understandable, and responsible manner so that the widest possible community stands to benefit and (sometimes) serve as advocates on behalf of affected communities (without impairing scientific objectivity).” Despite reluctance of some scientists to be involved in policy development, a systematic review found that one of the most important facilitators of moving research into policy is personal contact between researchers and policymakers.²⁵

Personal demands

Involvement of scientists in the policy process brings with it personal demands. Involvement of a scientist in policy development takes time—this is time that may be

credited as “service” in the academic setting, but is unlikely to contribute substantially to career development (e.g., promotion, tenure, compensation). Anyone involved in a heated policy debate may be the target of personal attacks and harassment.²⁶ Policymakers will likely accept these risks when they run for public office.

Information overload

Multiple legislative and nonlegislative demands compete for the time of a policymaker, and the number of demands has grown at a steady pace over the years.²⁷ A fundamental tenet of the communication process is that people are limited in how much information they can process.^{28,29} A policymaker in the United States is typically exposed to hundreds of messages from multiple sources on a daily basis. A recent study of 292 state policymakers supported the notion that much of the information provided to policymakers is not assimilated. Among surveyed policymakers, 27% read the information they receive in detail, 53% skim the information for general content, and 35% “never get to” material.³⁰ Some have suggested that many policymakers “read people,” not written reports.³¹ This is a problem exacerbated by term limits, especially in state legislatures, where elected officials are not around long enough to develop expertise and are more subject to “expert” lobbyists. In addition, scientists may be ill-equipped to communicate complex information to policymakers in effective ways.³²

Lack of relevant data

Data can be persuasive and powerful in shaping policy decisions.^{33,34} However, epidemiologic data, whether from etiologic research or from surveillance systems, are often not in the form most useful for policymakers. Many data sets provide disease or risk factor data at the national, state, or county levels. Surveillance data are often compiled in reports that can be hundreds of pages in length. Yet policymakers often look for data that (1) show public support for a particular issue, (2) demonstrate priority for an issue over many others, (3) show relevance at the local (voting district) level, and (4) personalize an issue by telling a compelling story of how people’s lives are affected. In a political setting, a good anecdote or intuitive argument may carry more weight than a plethora of statistics or research results. Anecdotes are especially persuasive to the audiences that policymakers speak with (their constituents), who often are not sophisticated consumers of statistical evidence.³⁵

Data from Los Angeles and New York City have helped to shape the local public health agenda in part due to partnerships among local agencies, researchers, and policymakers.³⁴ The Canadian Cancer Society has called on the Canadian Parliament for increased sup-

port of cancer control, in part through publication of cancer data by local voting district (www.cancer.ca).

The mismatch of randomized thinking with nonrandom problems

In mainstream epidemiology, the most rigorous design for hypothesis testing is the randomized controlled trial.¹⁵ However, a randomized design is seldom useful in policy research because the scientist cannot randomly assign exposure (the policy) and problems are often qualitative. Thus, alternative research designs are often superior in framing policy-relevant questions.

There are two types of inquiry relevant to policy. First, a broad array of policy-relevant research contributes to policymakers’ understanding of what is likely to work. In this case, the information presented should be based on the best possible research.³⁶ Often, case studies are powerful tools for informing the policy process; these approaches are more often used in political science than in public health research. A second key type of policy research seeks to understand the impact(s) of a particular policy following enactment. In these studies, quasi-experimental designs (e.g., ecologic studies, time-series designs) are likely to be more useful than randomized experiments. A key issue in the evaluation of the impacts of policies is whether there is adequate variation in policy exposure among the target population.¹⁴

What Should Be Done?

These challenges, while substantial, are not insurmountable. There are numerous examples of fruitful collaboration and communication between scientists and policymakers. In many cases, these have resulted in the translation of scientific discoveries into meaningful policies. Several actions are suggested that should help bridge the chasm between science and policy, and examples are provided where these approaches have been applied.

Understand the Complexity and Drivers in Decision Making

Prevention of a public health problem is complex with a myriad of factors shaping the risk profile of a population.³⁷ Our biomedical models often seek to reduce causes into neat and clean pathways, yet as relevant policies take shape, it becomes clear that the world is complex with numerous policy options. Also, a vast literature in social psychology suggests that decision makers rely on habit, stereotypes, and cultural norms for the vast majority of decisions.³⁸ Someone working in the policy arena will quickly realize that science is only one of many important drivers in decision making.³⁹ The receptivity of policymakers to the inputs of

Table 3. Factors affecting receptivity of policymakers to inputs of health experts

Factor	Specific questions
Transparency of methods	Are the methods appropriate and transparent in their use and replication?
Plausibility of analysis	Does the analysis fit with the policymaker's analysis?
Experts' credentials	What are the personal credentials of the expert? What are the credentials and prestige of the institution that they represent?
Perceived impartiality	Has the researcher shown impartiality in reaching conclusions and policy steps? Who sponsored the expert's study? Does this create a conflict of interest?
Perceived track record	What are the expert's previous efforts?
Perceived honesty	Has the expert adequately expressed uncertainty in framing a conclusion?
Involvement of policymakers and stakeholders	Have the policymaker and/or stakeholders been included in development of policy solutions? Is the information from the expert locally relevant?

Adapted from Andrews,⁴⁰ Busenberg,⁴¹ Cash et al.,⁴² and Weiss.⁴³

health experts is driven by a set of factors that are now well-established through political and social science research⁴⁰⁻⁴³ (Table 3).

It is also important to distinguish between policies and the politics of science. As noted above, there are many factors beyond direct evidence that affect policy. Lobbyists and organized political opposition to a proposed policy may block legislation supportive of public health because their interests are threatened by the proposed policy.

Find a Way to Be Involved in the Process

The most effective public health agencies are not isolated from the policymaking process and make active use of data.^{44,45} To achieve this, researchers need to be aware of policymakers' concerns and windows of opportunity to change policy, and to be actively involved in the interchange between data and policy.^{46,47} While there are legitimate reasons for scientists to maintain some level of isolation from the policymaking process, policy implementation and research are viewed as a shared responsibility between scientists and policymakers. Policymakers need information in order to understand policy options and craft legislation.⁴⁸ In the absence of scientists' involvement in the policymaking

process, policymakers are likely to rely more heavily on vested interests (e.g., the food industry, the tobacco lobby), or nonscientists who may not have the public's health as their primary motivation or who may lack savvy in interpreting data. It may be useful to think of advocacy as a continuum with considerable overlap between categories; a scientist may seek her/his comfort level along this spectrum (Table 4). There are many examples where a broad-based set of individuals and agencies, often organized into coalitions, have improved public health. In tobacco control, a key driver in declining rates of tobacco use in many parts of the world is well-networked coalitions that have included scientists, health workers, and policymakers.⁴⁹

Communicate Information More Effectively

The former Speaker of the U.S. House of Representatives, Thomas (Tip) O'Neill, made famous the phrase "All politics is local." In that same light, the policy choices of elected officials are often designed to support their interest in being re-elected,⁵⁰ so data for policymaking must be locally relevant. For example, when sample sizes permit, it is probably more policy relevant to calculate statistics at the voting district or even precinct level than at the city or state level. Rates

Table 4. Actions across advocacy continuum

Raise the general awareness of issue ↔	Communicate findings to policymakers ↔	Actively lobby on behalf of particular issue
Publish a scientific article Publish a popular piece	Develop short policy summaries Transform epidemiologic data into forms readily understandable by policymakers Provide testimony at a legislative hearing	Form and activate community-based coalitions Learn and use media advocacy techniques
Present findings at a professional meeting Present findings at a community meeting Issue a press release	Educate legislative staff members on public health issues	Write for newspapers on a specific issue (letters to the editor and editorials) Meet with an elected official to get across a specific point of view Publicize the tactics of vested interests that are at odds with public health goals Support candidates who are of like mind

are often unstable at this level, but even absolute numbers can be persuasive. Innovations such as spatial data mapping (geographic information systems) allow for easy aggregation of data for diverse geographic locations and rapid visual display of data.⁵¹ Policymakers are more likely to read material that is broken down into bulleted and otherwise highlighted text and accompanied by charts or graphs illustrating key points.^{30,52} Narrative storytelling shows promise as a form of behavioral intervention for several populations and health conditions.^{53–56} The premise for this line of research is that storytelling makes messages personally relevant, motivation is gauged by personal susceptibility, and practical information is provided. Policymakers cite the impact on “real people” as one of the most important factors in increasing the coverage and relevance of research.³⁰ Attention is needed on how scientific data can be turned into compelling stories that are relevant to policymakers and the people who vote for them. Within a story, some of the most convincing types of evidence may contrast the costs of action versus those of inaction.⁹

A variation on this theme involves “case-wise analysis,”⁵⁷ in which individual cases are clustered by the similarity of impacts (e.g., the elderly because of the differential impact of air pollution on the incidence of emphysema in older populations) rather than analyzing highly aggregate statistics. In this way, vivid policy-relevant stories can be told with rigor rather than resorting to anecdote.

An illustration of the value of real stories comes from using case studies—presented on the Public Broadcasting System and widely disseminated in published form—of those without health insurance to illustrate the difficulties faced by the uninsured in accessing health care, the reasons why they lack health insurance, and the effects of the lack of health insurance on their health status.⁵⁸ These case studies showed that families often delayed treatment because of financial considerations, with significant impacts on their health status. A main reason that they were uninsured was because of working in marginal jobs. However, these stories illustrate the broader phenomenon found in the aggregate data, and thus are a useful illustrative tool.

Make Better Use of Analytic Tools

A variety of analytic tools are now available that may have positive impacts on the policymaking process. Systematic reviews, such as the *Guide to Community Preventive Services*,⁵⁹ sum up the results of primary scientific studies that meet explicit criteria. They provide an overview of current scientific literature through a definable and rigorous method in which available studies themselves are the units of analysis. Economic evaluation, commonly through cost-effectiveness studies, should be an important component of evidence-

based policymaking.⁶⁰ These methods provide information to help assess the relative appropriateness of expenditures on public health programs and policies. Cost-effectiveness compares the net monetary costs of an intervention with some measure of health impact or outcome (e.g., years of life saved).⁶⁰ In cost-benefit analysis, all of the consequences of the decision options are valued in monetary terms. Cost-benefit analysis addresses the question, “What is the overall economic trade-off between the policies?” Cost-benefit analysis is, however, rarely used to address health issues for a variety of reasons.⁶¹ Analysts in health care are rarely deciding whether to vaccinate children or build highways. Rather, they are trying to find ways to maximize health status and outcomes given a fixed number of healthcare dollars.

Health impact assessment (HIA) is a newer area of inquiry that attempts to prospectively estimate the potential impact of a policy or intervention on the health of the population. This approach has long been used for environmental issues and is gaining utility and acceptance for a broad range of health issues.^{62–64} An excellent illustration of the value of HIA comes from California, where researchers used estimates of the effects of health insurance and income on mortality to estimate and compare potential reductions in mortality attributable to the increases in wage and changes in health insurance status among workers covered by the Los Angeles City living wage ordinance.⁶⁵ Results showed that the health insurance provisions of the ordinance had a much larger health benefit than did the wage provisions, thus providing valuable information for policymakers who must decide how to allocate resources.

Educate Staffers on Science

A common mistake made by novices to the legislative process is assuming that it is always better to interact with elected officials themselves, rather than with members of their staffs.⁶⁶ Legislative staff members are the gatekeepers and opinion shapers for many public health issues; in brief, these individuals often have a great deal of influence in forming the priorities of an elected official. Therefore, it is often important to develop a positive working relationship with his/her legislative staffer(s) and to build their knowledge and understanding of evidence-based approaches to policymaking. Interestingly, legislative staff seem to prefer longer, detailed reports, whereas elected officials themselves prefer short summaries.³⁰

While legislators are more prone to use and consume what Peterson³⁵ calls “ordinary” knowledge (e.g., personal experience, anecdotes, letters, phone calls), legislative staff are better equipped in recent years to receive whatever information analysts can provide, and with increasing sophistication, and this is described by

Peterson³⁵ as “distributional” and “policy-analytical” knowledge. For example, in the recent debate over the implementation of the Medicare Modernization Act of 2003, congressional staff turned to policy analysts with sophisticated questions about the impacts of policy changes on individuals and institutions.⁶⁷

Develop Systems for Policy Surveillance

Public health surveillance is a cornerstone of public health,⁶⁸ yet policy initiatives have not been a central focus of surveillance systems. When implemented properly, policy surveillance systems can be an enormous asset for the policy development process and for policy evaluation. For example, the National Cancer Institute’s State Cancer Legislative Database tracks various types of cancer-related state legislation and is a valuable tool for practitioners and researchers who are implementing and evaluating policy initiatives. These systems allow for the linkage of data on state tobacco policy with outcomes such as youth smoking or exposure to secondhand smoke.^{69,70}

Conduct Policy Research

Rich opportunities for policy research may take a number of forms including: (1) identifying relevant policies (surveillance), (2) understanding the determinants of establishing policy, (3) exploring the process of developing and establishing policy, and (4) assessing the outcomes of policy implementation. In these studies, the policy can be either the independent or dependent variable. As noted earlier, often the most fruitful designs for policy research are less often used by public health researchers. For example, some of the most powerful information on the policy process comes from single or multiple case studies. Case studies allow one to observe changes in real-life settings, can guide future programs, and are most useful when the investigator has relatively little opportunity to manipulate the behavior of interest (e.g., non-experimental conditions).⁷¹

A recent example of cross-case comparison research comes from Europe where scholars investigated the perceived and objective “built” environment across Finland and Germany, and how it encourages or inhibits physical activity participation.⁷² A key aspect of the study was to determine whether a policy orientation (i.e., strategies, policy statements, committee reports, funding, the will of the government) is related to activity. Results were described both quantitatively and qualitatively, showing that a policy orientation encouraging physical activity for the whole population appears to be related to better opportunities for sports and recreation as well as stronger physical infrastructure.

Improve Training and Education Programs

Better competencies are needed in numerous areas relevant to policy development, implementation, and evaluation. Many public health training programs do an excellent job in educating students on analytic methods yet lack more applied skills. For example, for epidemiologists in practice settings, key skills include skills in working with the media, writing concisely in straightforward language, and developing compelling presentations.^{73,74} Some organizations have taken on the task of training researchers to communicate more effectively with policymakers. For example, Research! America⁷⁵ has sponsored a series of meeting and trainings to demonstrate the value of academic, industry, and government research. These meetings have targeted both academic researchers and policy advocates.

Build Appropriate, Transdisciplinary Public Health Teams

Savitz et al.⁷⁶ have suggested the need to develop a broad definition of public health that includes a diverse array of actions and teams that may include policymakers, health department officials, epidemiologists, and others. In part this is essential because science tends to be compartmentalized, with each subdiscipline possessing its own culture, language, and funding streams.³² The challenge of complex problems faced by public health requires not only the involvement of the right people but also a variety of sectors (e.g., education, transportation, economics).⁷⁷ Coalitions and partnership are often a key vehicle for bridging these sectors.^{78,79}

A good example of transdisciplinary research and communication comes from the work on health effects of electric and magnetic fields (EMFs). In studying EMFs, expertise is required from many disciplines, including epidemiology, exposure assessment, toxicology, endocrinology, cell biology, and physics.⁸⁰ To effectively communicate complex risk estimates related to EMF exposure to policymakers, public health officials need experts in risk communication who understand the perception of involuntary risk, the role of the media, and weighing of societal risks and benefits.

Cultivate Political Champions

Getting a bill passed takes more than outside pressure. It often takes someone applying pressure “from the inside.” A political champion is one who is not only willing to support a bill, but is willing to use her or his passion and influence to garner support from colleagues. The importance of political champions is widely recognized.^{27,81} In the health advocacy arena, for example, one powerful member of the Transportation and Infrastructure Committee of the U.S. House of Representatives has become a champion of walking and

bicycling interests. He has developed a particular concern about physical inactivity and obesity in children. As a result, he has pledged to include a \$1 billion "Safe Routes to School" program in the new federal surface transportation act. This bill recently passed both houses of Congress at the level of \$612 million.

Summary

Closer linkages between public health researchers and policymakers are essential if we are to address issues of societal importance and thereby enhance the health of populations. While the distinctions between scientists and policymakers highlighted in this paper may be oversimplified to a degree, the dichotomy also seeks to identify common ground. Researcher-policy connections can take several forms and do not necessitate that scientists lose their objectivity and scientific credibility.⁸² It is possible to have socially responsible science that balances the rigor of science with the essential need for advocacy and political action.⁸³ The development, implementation, and evaluation of public policies should be viewed as a shared responsibility among researchers, elected officials, advocates, and citizens. It is a fundamental obligation of a scientist not only to discover new knowledge but also to ensure that discoveries are applied to improve health and well-being.

This project was partially funded through the Centers for Disease Control and Prevention, Health Promotion and Disease Prevention Research Center (award U48 DP00060-01).

No financial conflict of interest was reported by the authors of this paper.

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