The Use of Appropriateness Criteria for the Selection of Clinical Preventive Services for a Pacific Island Health Service

A.M. Durand[1]
Kate Decherong[2]
Janice Ngirasowei[2]
Yuriko Bechesrrak[2]
Selerina Malsol[2]
Sylvia Osarch[2]
Angela Marcil[2]
Stevenson Kuartei[3]
Greg Dever[3]

1 Yap State, Dept of Health Services and Yap Area Health Education Center (corresponding author: durand@mail.fm)
2 Ministry of Health, Republic of Palau
3 Ministry of Health, Republic of Palau and Palau Area Health Education Center

Abstract:
Clinical preventive services are measures performed in the clinic setting for the prevention of disease and the promotion of health. The general practice/public health physician residency class of the Palau Area Health Education Center reviewed existing clinical preventive services protocols for the Ministry of Health of the Republic of Palau and revised them, taking four criteria into consideration for each candidate intervention (local patterns of disease and risk factors, evidence for effectiveness of the intervention, local system capability for delivery of the intervention and its consequences, and competing priorities). The resulting package of interventions is much more focused and appropriate to local conditions than was the one that it replaced. It has the potential to improve the health status of the population by making better use of available resources.
(PHD, 2005 Vol 12 No 1 Pages 141 - 144)

Background

Tests that screen for risk factors or diseases in their pre-symptomatic stage, pharmacological or nutritional supplements to prevent disease, vaccinations, and advice to patients about how to stay healthy are all examples of measures that, when applied in health care settings, are termed clinical preventive services (CPS). Most health care systems do provide some CPS in addition to curative and medical care. The services offered differ greatly among various health systems and may even differ among sites within a single heath system and among health workers at a single site. While these services do have potential benefits to health they can also be harmful when misapplied. They cost money and patients' time. False positive screening tests can cause anxiety by making someone believe they have a serious disease that they don't really have. Screening tests may have false positive results that can result in invasive work-ups and treatments that have risks. Even if results are not "false positive", tests can sometimes detect "diseases" that may never progress to the point of making a person ill during their lifetime. Even health education, if misdirected, can cause people to pay attention to worthless things and distract them from more important practices.

In order to gain the benefits of CPS while avoiding the risks, most health services adopt a "package" of officially endorsed CPS. However, the endorsed measures are often chosen in a haphazard way according to recommendations made by various authorities in other nations, by various medical specialty societies, by funders of categorical public health programs and by hunches based on health workers' anecdotal experiences. This was the case in the Palau health service, where the existing CPS "matrix" was initially derived from a health insurance plan in the United States and had additions contributed by various grant-supported public health programs over the years.

The matrix contained measures, like sigmoidoscopy screening for colon tumors, which had never been available in Palau. Adding to this problem was the fact that the CPS were largely applied only in categorical public health clinics (e.g. breast and cervical clinic, well-baby clinic, etc.); while the majority of outpatient encounters occur in the general outpatient clinics. Many opportunities for health promotion and disease prevention were being missed.

The post-graduate residency in general practice and

public health was a program of the Palau Area Health Education Center. It operated between 2002 and 2004 to equip 10 medical officers with the advanced skills required to practice within and manage Micronesian health care systems. The systematic review of Palau's official CPS package was one of the projects conducted through the residency program.

Methods

As a first step, we completed and in depth "literature review" of patterns of disease and risk factors in the Republic of Palau. Public health program reports, various consultants assessments relating to health, vital statistics data, hospital impatient and outpatient encounter data, the year 2000 Census, tobacco and alcohol import statistics and published medical literature relating to health in Palau were all gathered and reviewed over several months and assembled to form a health status "snapshot" for the Republic. This snapshot was the basis for the CPS evaluation.

Only primary prevention services were considered. Secondary preventive services, i.e. measures to prevent complications of established diseases, were not (screening patients for presence of diabetes was considered for inclusion while screening of diabetics for retinopathy was not, for example). Also community preventive services (health promotion and disease prevention activities that are done outside of the clinic setting) were not considered (e.g. media campaigns against drunk driving). CPS that were on the Palau Ministry of Health's health maintenance outpatient chart matrix or that were being applied in any of the public health clinics of the Ministry were considered for inclusion in the revised matrix. In addition, all of the CPS that were evaluated in a large published review, the Guide to Clinical Preventive Services of the U.S. Preventive Services Task Force, were also considered for inclusion. We assessed CPS separately for children, pregnant women and other adults. Each CPS candidate was evaluated according to four criteria. To be recommended for inclusion in our revised matrix, the service was required to meet all four. Decisions for inclusion were made by consensus.

Results

A total of 91 separate CPS were evaluated . Of these, 38 were accepted. Ten were accepted with changes from current practice. These changes related to the frequency with which the measure is to be applied (e.g. tuberculosis screening by skin test for children was dropped at 4 years of age but maintained for 1year of age), the target group for the measure (e.g. VDRL changed from all adults to barmaids, adults with multiple sexual partners or other STD's) or to the specific type of service to be delivered (e.g. "vision screening" for children was changed to "strabismus screening by cover test and light reflex" at 1-2years of age). Two measures- influenza vaccination, and screening for genital gonorrhea among pregnant women- were undetermined pending collection of additional information about local disease patterns. One measure- domestic violence screening for pregnant women- was included contingent on development of management protocols. Two measures- nutrition education of parents for children, and obesity screening for adults- were approved for inclusion despite having only "Class C" USPTF evidence grades. These exceptions were made because of the critical local importance of nutrition issues and feeling that systematic nutrition information might have a larger impact in areas like Palau where basic understanding is limited than in developed countries where most of the population has been exposed to basic nutrition education.

1. The target condition for which the CPS is designed to improve should be an important source of morbidity or mortality as judged by the review of Palau health status indicators (i.e. "local importance").
2. The measure and its follow-up should be feasible to deliver within the constraints of the local health service.
3. The measure should be proven effective for improving the health status of populations. (as reflected in a grade of "A" or "B" for evidence of effectiveness by the U.S. Preventive Services Task Force*)
4. Compared to other ways to spend effort and money, the measure should be of high priority.

*Task Force recommendations are graded on a five-point scale (A-E), reflecting the strength of evidence in support of the intervention as follows:
A: There is good evidence to support the recommendation that the condition be specifically considered.
B: There is fair evidence to support the recommendation that the condition be specifically considered.
C: There is insufficient evidence to recommend for or against the inclusion of the measure.
D: There is fair evidence to support the recommendation that the condition be excluded from consideration
E: There is good evidence to support the recommendation that the measure be excluded from consideration.

Of those measures that were deleted, a number were on the old matrix but were not being performed routinely (e.g. sigmoidoscopy for colon tumor screening, EKG, Emotional Stress Scale, teaching of testicular self exam) while others were in routine practice (PPD at 4yo, stool microscopy for ova and parasites at well child visits. There was also some discrepancy between our group's recommendations and the mandates of grants received by the Ministry of Health (e.g. clinical breast exams were not recommended for inclusion while the Ministry's Breast and Cervical Cancer Prevention Program grant aims to improve population coverage with clinical breast exams).

Discussion

We described a process and results for the selection of clinical primary preventive services for a developing health care system. Many of the preventive interventions recommended for metropolitan health care systems are either inappropriate or not feasible for a setting like that of the clinics within the health service of the Republic of Palau. Deciding whether particular measures are desirable requires an intimate knowledge of local conditions and capability, the balancing of local priorities against each other and a "big-picture" population perspective. Local generalist decision makers are thus much better qualified to recommend these policies than are external consultants, especially when these consultants are narrowly specialized (cancer specialists making recommendations about cancer screening; chest physicians about TB screening, for example). To be effective, however, local decision makers must avoid an ad hoc approach and develop an understanding of community disease patterns that goes deeper than that derived from anecdotal experience in the clinics. They must also appreciate the limitations of available measures as they are applied in the local setting (for example the success of tuberculosis screening with skin tests may be affected by whether BCG inoculations are performed and limited by the ability of the local health system to deliver isoniazid prophylaxis to large numbers of children).

The approach for selecting a package of CPS described here does have several shortcomings. First, while our approach will improve the allocation of resources within the health service, it cannot be used to determine the optimal balance between preventive vs. curative services. It also is not sufficiently broad to consider non-clinical health promotion and disease prevention strategies in which the health service may wish to invest. For example, a strategy of advocacy for the increase of tobacco excise taxes may be a more effective and efficient strategy for control of tobacco addiction than is a clinic-based package of tobacco use screening and counseling.

Also, in so far as information about local patterns of illness and risk factors is limited, the decision to include a preventive service will always be qualitative, rather than exact. Some measures that have proven to be effective in developed country settings, "home safety counseling", for example, might not be applicable or effective in a developing country while others, like breast feeding promotion, might be more effective in a developing country (where bottle feeding has gained less of a cultural "foot- hold" and is much more dangerous than in developed countries). Deciding whether a service is "feasible" for delivery locally and whether it is a "good investment compared to the other uses" also require a degree of judgment.

In cases where mandates of funding agencies diverge from local needs, local decision makers should use a systematic analysis of appropriateness such as ours to appeal to funding agencies to allow programs to fit local needs.

Many of the preventive interventions recommended for metropolitan health care systems are either inappropriate or not feasible for a setting like that of the clinics within the health service of the Republic of Palau.

The working group that developed this set of recommendations for the Ministry of Health in Palau has been a task force, rather than a policy- making body. Official endorsement by policy makers in the Ministry of Health has been obtained and implementation of the recommendations is in process. Part of this process is to obtain widespread "buy- in" by those who will decide to apply these interventions (including public health managers as well as medical care providers). The fact that the members of our task force are all clinicians who see many of the patients in both the public health and general outpatient clinics for the Palau Ministry of Health facilitates the process of buy-in.

Once buy-in by stakeholders is obtained, changes in practice must also be institutionalized. Health workers must know the reasons that changes have been made and how to perform recommended interventions. Proper forms must be developed, adopted and put in the right places to remind health workers what to do. Needed supplies must be made available. Support staff such as clerks and storeroom personnel must be fully oriented to the changes. Finally, an evaluation system must be put in place to assure that the desired changes are implemented. Institutionalizing these changes is simpler in unitary health services, such as those in many of the Pacific islands. It may be more difficult to attain

widespread adoption of recommended interventions in areas where most clinical care is delivered by private practitioners, unless monetary incentives are provided for compliance.

The use of appropriateness criteria to guide the choice of clinical preventive services has the potential to save scarce resources and improve the health status of island populations. This is an opportunity that can be of benefit to most of the health services throughout the region.

i "Palau Health Status Indicators" presented to the Pacific Basin Medical Association by Dr Janice Ngirasowei. Kosrae, August 2003.

ii U.S. Preventive Services Task Force. Guide to clinical preventive services, 2nd ed. Baltimore: Williams & Wilkins, 1996.

iii Op cit. ii; Appendix A, p861.

From success you get lots of things but not that great inside thing that love brings you
(Sam Goldwyn)