

### UPSTREAM INVESTMENT IN HEALTH CARE: NATIONAL AND REGIONAL PERSPECTIVES

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**هدف الدراسة :** مع تحول عبء المراضة إلى الأمراض غير معدية, هناك احتياج لتبني الإدارة من خلال مفهوم الصحة العامة وتوجيه الموارد إلى الاستثمار طويل المدى للتعامل مع عوامل الخطورة وليس التعامل مع المرض نفسه (الاستثمار قصير المدى) الذي يهتم أساساً بإنشاء الخدمات العلاجية. وقد بذلت جهود كبيرة في مجال الوقاية من الأمراض المعدية في المملكة العربية السعودية ولكن هناك الكثير الذي يجب عمله في مجال الأمراض المزمنة في العقود القادمة. وأثناء تطوير البرنامج الوطني للأمراض المزمنة يمكن البدء في مشاريع طموحة وتجربتها على مستوى المناطق الصحية ثم تقويمها وتطبيقها على المستوى الوطني.

**الكلمات المرجعية:** استثمار – الرعاية الصحية – التدخل – وقاية – السعودية – القصيم

*Since the burden of disease has shifted towards non-communicable diseases and public health management, there is a greater need to direct resources to address risk factors of the diseases rather than the diseases themselves. The downstream agenda focused on treatment services and is still an important problem at the level of national health management. Much has been accomplished in preventive programs for infectious diseases in Saudi Arabia but a great deal more is needed to combat non-communicable diseases. While a national non-communicable diseases program is being established in the Kingdom, more advanced pilot projects of NCD can be started in the regions. A model for cardiovascular diseases in Qassim will be presented.*

**Key Words:** Investment, health care, intervention, prevention, upstream, Saudi, Qassim.

#### INTRODUCTION

Modern public health practice still lacks strong political support.<sup>1</sup> Neither managers nor public health professionals appear to be succeeding in their attempt to improve the health of the public. This is evidenced by the enormous waste of resources on downstream interventions because of the absence of work upstream. This is why not much has been achieved to raise the status of public health. Considerably more is possible if there was a more dynamic application of public health knowledge and approach to the establishment of infrastructure.<sup>2</sup>

#### UPSTREAM AND DOWN STREAM INVESTMENTS

The difference between upstream and downstream investment is that with an injection of modest financial resource to deal with the risk factors, an extra decade of healthy life could be realized. The tendency in most countries is for people in authority to act only after the occurrence of a problem, yet investment in prevention, especially primary proactive prevention activities may be more cost-effective with greater long-lasting benefits. The WHO world report in 2002,<sup>3</sup> identified top 10 risks that are often the actual causes of major diseases.

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Their true impact and the means to reduce them are evident. These risk factors together account for more than one-third of all deaths. The ten leading risk factors globally are: underweight, unsafe sex, high blood pressure, tobacco consumption, alcohol consumption, unsafe water, sanitation and hygiene, iron deficiency, indoor smoke from solid fuels, high cholesterol, and obesity. It is obvious that in some countries, fewer risks may cause a huge number of premature deaths. Underweight alone accounts for over three million childhood deaths a year in developing countries, while in the more developed countries, tobacco, alcohol, hypertension, cholesterol and obesity are more important. What we need is an attempt to ensure that a balance is maintained between upstream and downstream determinants of health.<sup>4-6</sup>

### **WHY WE NEED UPSTREAM INVESTMENTS**

The classic burdens presented by infectious diseases have shifted in some countries to non-communicable diseases. By the year 2020, their collective burden is expected to reach 60% globally. Non-communicable diseases need a different long-term approach. By adopting cost-effective interventions applied in the industrialized countries, the burden of these diseases can be reduced. Primary prevention would modify environmental and behavioral risk factors.<sup>7</sup>

### **UPSTREAM INVESTMENTS BRINGS DOWNSTREAM RESULTS**

Investing in intervention programs to deal with tobacco use, high blood pressure or high cholesterol can prevent more than three-quarters of cardiovascular diseases, the world's leading cause of death. Cost-effective interventions to counter some risk factors can, therefore, reverse their impact and save a considerable amount of money usually spent on treatment of the disease. Risk reduction policy can save four million premature deaths a year as a result of high cholesterol, five million for tobacco use, and seven million for high blood pressure.<sup>3</sup> Needless to say, a change in health status through an upstream intervention is particularly difficult since any intervention meant to benefit the disadvantaged helps the better-off. Consistent

political commitment is necessary in order to ensure success and reduce the ever-widening disparities in health.

### **SAUDI ARABIA: NATIONAL AND REGIONAL LEVELS**

There has been much improvement in the field of infectious diseases,<sup>8-11</sup> but NCD poses a greater challenge. Published data from Saudi Arabia indicate that interest in the preventive national strategies for NCD is still evolving.<sup>12-14</sup> Failure to shift the policy debate from the bias towards a downstream agenda that focuses on treatment is still an important problem at the management level of national health. A change at the local or regional level is possible only if it forms a part of the national policy which assesses the magnitude of the risks and formulates a risk reduction policy, and provides the infrastructure that would make action on the policy feasible. Risk factors can be assessed at the national level, but the fine details and modalities of operation must be assessed at the regional level. Also, pilot projects can be started at the provincial level, and replicated elsewhere.<sup>15,16</sup>

In Al-Gassim, Prince Sultan Cardiac Center (PSCC), a tertiary cardiac center, can be a model with two components: a clinical dimension to address the downstream problems and a broader prospective of public health that extends the investment upstream with planning and supervision of a risk reduction policy. A risk reduction policy should be part of the national policy but PSCC can work as an infrastructure in the Al-Gassim region. PSCC could be the focal point in Gassim to plan and supervise risk assessment and reduction in the province. This can be done through the concept of public health management defined as the optimal use of the resources of society and its health services towards the improvement of the health experience of population.<sup>17</sup> Provision can be made in the early stages by including the epidemiology and public health departments within the PSCC upgraded to the level where clinical services become population based, rather than institution based. At that stage, the outcome is measured not only as the number of interventional cardiology measures taken, but also in terms of the magnitude of risk reduction in the community.

## WHAT IS NEXT

In order to transfer intervention schemes developed in industrialized countries to developing nations, it is important to assess the local risk factors and those interventions that are culturally relevant. Local risk assessment studies at the regional level should be encouraged. Detailed data at the provincial level is more convincing to the public and reflects local differences. Priorities for risk assessments can depend on available morbidity and mortality indicators. Obesity for example, is an important risk factor needing assessment. Studies have shown that obesity is on the increase in the Al-Qassim region.<sup>18</sup> Further studies to measure hypertension, cholesterol, smoking and physical activities are as important as risks of road traffic accidents.

After measuring the risk factors, interventions can be planned and directed at the appropriate target groups. In general, behavior that affects health is acquired early in life. This means that children are the most suitable target group for a change in behavior. Studies indicate that changes in cardiovascular risk factors including body mass index are possible after a health education program is introduced to children in primary schools.<sup>19</sup>

Accordingly, long term investments and partnership between and across different sectors including cooperation between the Ministries of Health and Education should be planned and implemented.

In conclusion, it should be borne in mind that resources utilized on upstream investment on health can bring downstream results and save a huge amount of money, especially when non-communicable diseases are the focus. Strengthening the infrastructure at the provincial level in this investment, is an important step that should be supported by the encouragement of local risk assessment studies and the adoption of the concept of public health management at all levels.

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