

# The application of HIA (Health Impact Assessment) to improve the quality of vocational education and training in Poland

( Aplikacja metody HIA (Ocena Wpływu na Zdrowie) dla poprawy jakości szkolnictwa zawodowego w Polsce )

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**Abstract** – Introduction: Health in this case will be broadly treated and understood not only in categories of life length correlated with the level of education but also with the sense of professional prestige, obtaining qualifications necessary on the service market and general welfare – in accordance with the definition of WHO, taking into account socio-economic health determinants.

Aim of the study. The main purpose of the study is to demonstrate to what extent the change, prepared in Poland, concerning organisation and functioning of vocational education may have influence on health of the young generation choosing this kind of education.

Material and methods. The methods used include a review of professional literature and legal acts dedicated HIA and the ongoing national reforms for vocational education in Poland.

Results. The results relate to the two main strands of the analysis undertaken: 1. The situation of young people aged 18-24 in the labour market. Reforms of vocational education in Poland 2. Health impact assessments in relation to vocational training, the indicated (important) institutions. Vocational education needs to be reformed in the direction of better absorption of graduates in the labour market, increasing their professional prestige and earnings. The training is to be more professional. Both the training and the strong position of vocational school graduates in the labour market are responsible to raising their health status. Conclusions. Shortages in terms of effective vocational and health education of adults from marginalised groups are sufficiently well identified. Despite this assumption, theoretical and practical solutions of this education are not significantly proposed and developed in the context of social and health needs in this respect. The conducted analyses concerning vocational education show that this is an aspect requiring an in-depth analysis the results of which can be translated into educational and health-promoting actions in practice.

**Key words** - HIA (Health Impact Assessment), socio-economic health determinants, decision making process in health.

**Streszczenie** – Wstęp. Głównym celem pracy jest próba odpowiedzi na pytanie w jakim stopniu przygotowana w Polsce zmiana w organizacji i funkcjonowaniu szkolnictwa zawodowego może mieć wpływ na zdrowie młodego pokolenia wybierającego ten rodzaj edukacji. Zdrowie w tym przypadku będzie szeroko traktowane i rozumiane nie tylko w kategoriach długości życia skorelowanych z poziomem wykształcenia, ale także z poczuciem prestiżu zawodowego, uzyskiwaniem kwalifikacji niezbędnych na rynku pracy i ogólnego dobro - zgodnie z definicją WHO, z uwzględnieniem społeczno-ekonomicznych uwarunkowań zdrowia.

Cel pracy. Głównym celem badania jest wykazanie w jakim stopniu zmiany, dotyczące organizacji i funkcjonowania zawodowego w Polsce, mogą mieć wpływ na zdrowie, wybór rodzaju edukacji młodego pokolenia.

Materiał i metody. Stosowane metody obejmują przegląd literatury fachowej i aktów prawnych poświęconych HIA oraz podjętym krajowym reformom w zakresie kształcenia zawodowego w Polsce.

Wyniki. Wyniki odnoszą się do dwóch głównych aspektów przeprowadzonej analizy: 1. Sytuacji młodzieży w wieku 18-24 lat na rynku pracy. Reformy szkolnictwa zawodowego w Polsce 2. Oceny wpływu na zdrowie (HIA) w odniesieniu do kształcenia zawodowego, identyfikacji zaangażowanych w ten proces instytucji. Należy zreformować kształcenie zawodowe w kierunku lepszej absorpcji absolwentów na rynku pracy, zwiększając ich prestiż zawodowy i zarobki. Szkolenie ma być bardziej profesjonalne. Zarówno szkolenie, jak i silna pozycja absolwentów szkół zawodowych na rynku pracy są odpowiedzialne za podnoszenie ich stanu zdrowia.

Wnioski. W Polsce wystarczająco dobrze zidentyfikowano niedobory w zakresie efektywnego kształcenia zawodowego i zdrowotnego dorosłych z grup marginalizowanych. Pomimo tego

założenia, teoretyczne i praktyczne rozwiązania tego poziomu edukacji nie są znacząco proponowane i rozwijane w kontekście potrzeb społecznych i zdrowotnych w tym zakresie. Przeprowadzone analizy dotyczące kształcenia zawodowego wskazują, że jest to aspekt wymagający dogłębnej analizy, której wyniki można przełożyć na działania edukacyjne i promujące zdrowie w praktyce.

**Słowa kluczowe** – HIA (Ocena wpływu na zdrowie), społeczno-ekonomiczne uwarunkowania zdrowia, proces podejmowania decyzji w polityce zdrowotnej.

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## I. INTRODUCTION

Health Impact Assessment (HIA) is defined as combination of the procedures and tools, thanks to which the policy, program or project can be evaluated in

terms of its potential influence on health of the population and their distribution [1].

The decision-making process with the use of HIA mechanisms always takes place in several basic stages: exploratory research (screening), identification of the scope (scoping), risk estimation, decision-making, implementation and monitoring [2]. The European approach distinguishes five stages of HIA, the American - six (together with recommendation stage). The most important feature of HIA is its prospective character [3].

The main purpose of the study is to demonstrate to what extent the change, prepared in Poland, concerning organisation and functioning of vocational education may have influence on health of the young generation choosing this kind of education. Health in this case will be broadly treated and understood not only in categories of life length correlated with the level of education but also with the sense of professional prestige, obtaining qualifications necessary on the service market and general welfare – in accordance with the definition of WHO, taking into account socioeconomic health determinants.

The paper will emphasise the institutional analysis and existing legal and organizational solutions on national, regional and subregional level in Poland, as well as identification and description of tools and procedures that can be applied in HIA models.

The key questions set forth in the analysis concern issues of effective educational actions/interventions having an influence on health, not only at the stage of planning and implementation, but also monitoring of further continuation of interventions in order to determine actual, i.e. obtained health effects and not only the predicted ones. It is necessary to conduct a institutional analysis in order to construct an inter institutional operation model with the use of the idea of HIA during the implementation of policies/educational interventions having a potential health effects for the health of an individual/population in the age group 18 to 24, of vocational schools graduates. An evaluation of planned changes will be conducted with regard to vocational education in Poland and its potential effect on employment of graduates of these majors.

## II. METHODS AND MATERIALS

The methods used include a review of professional literature and legal acts dedicated HIA and the ongoing national reforms for vocational education in Poland.

*Evaluation of the need to use HIA to improve the quality of vocational education in Poland*

The vocational education itself has undergone a number of significant changes. In times of real socialism, in the conditions of centrally planned economy vocational schools educated working class. After 1989 these schools began to be displaced by technical secondary schools focused on general education. During this period, industrial workers, public sector employees or miners were losing their, so far privileged position for the benefit of managers, specialists of the commercial sector where competences, being beyond the scope of education in vocational schools were important, e.g. ability to speak foreign language [4]. Then, change of production structure caused clear weakening or even liquidation of manufacturing units so far employing graduates of vocational schools. Additionally, deagrarianisation and concentration of capital in places other than flagship investments from the period of centrally planned economy, resulted in creation of new workplaces in large agglomerations where graduates of industrial majors from small centres could not find employment.

Education determines the level of skills. Graduates of vocational schools in Poland have general skills at the level of people with middle school or lower education. Another alarming fact is also the share of vocational schools graduates who are able to deal only with the simplest text comprehension or mathematical reasoning and use of technologies [5] Another Polish problems in terms of vocational schools are their undoubted stigmatization, meaning perception of graduates of these schools as "unprofessional" [4] and poor educational offer limited, among others, by staff constrains or insufficient equipment of schools and incompatibility with needs of the labour market. Employers are not motivated to forward modern technologies to schools – in 2010 in Poland only every fifth school cooperated with employers in order to improve usefulness of skills they teach [6]. The educational offer present in vocational schools is determined by practical and organizational reasons, such as technical facilities and availability of qualified teachers. For this reason, students are most often educated in gastronomy and mechanics, and the least in: chemistry, ceramics and glass-making and mining. Unfortunately supply of graduates of the most often taught professions exceeds the demand reported by employers, and consequently there is a high unemployment in mechanics and gastronomy.

In the area of vocational education there are several models resulting from experiences of organization of this level of education in different countries. If education structure is considered as a classification factor, we can distin-

guish: European model including general secondary schools and parallel paths of school education preparing to perform certain profession and American model in which most of students finish secondary schools without prior training in the profession and are employed right after school[7]

The purpose of the changes in vocational education proposed in 2016 by the Ministry of National Education is the gradual introduction of a dual system. The priority in this scope is to actively involve employers in the process of creation of new professions and core curriculum as well as establishment of the so-called professional line primary aim of which will be the preparation of core curriculum of teaching for the profession in cooperation with schools taking into account the educational content and needs of the local and regional labour market. Thus, practical education of students in cooperation with Centre of Practical Education (CKP) and equipment of schools and centres of practical education in modern technological educational base. Contribution of employers in the process of education consists in both staff support and commitment in the process of examination and confirmation of acquired professional qualifications and promotion of vocational education.

Such approach, first of all, aims to result in acquisition of professional skills taking into account modern techniques and technologies applied by employers, implementation of practical learning of the profession in real conditions of work, acquisition of certificates regarding skills in subspecialties honoured on the labour market and increased chances of employment for graduates, not only in connection with acquisition of new qualifications, but also in connection with increased interest in graduates among employers involved in cooperation with schools.

Poland, in the proposals of changes, aims to implement a dual model of vocational education based on well-organised local government, which is now present in Germany. However, it should be emphasized that this system significantly differs from solutions adopted in most EU countries. According to the Ministry of National Education it is a proper education model at the level of vocational schools, due to changing economic situation, because the micro and small businesses dominant on the market in our country cannot correctly diagnose the demand in terms of employment. Schools and public authorities conducting schools do not receive the data necessary to plan education in specific professions. The lack of the need to associate employers in local authorities that could effectively support the companies and be a partner for the educational system constitutes yet another problem.

*Influence of education on health*

Impact of level of education on health is confirmed by many studies and reports. Correlations between level of education and length of life are the most known, as well as recognition of differences in health condition as a derivative of social status. Especially great number of works and analyses concern diversity of mortality in the western countries [8]. Social inequalities in health condition are also present in Eastern European countries, which is confirmed by Russian [9] Estonian [10] and Lithuanian studies [11]

Measurement of occurring social inequalities in health is a relevant issue. One of the first works on this topic was the *Black Report* [12], authors of which used descriptive measures in the form of range and extreme values ratio in an analysis of mortality irregularities in England and Wales. Special attention in the context of irregularities of health should be also paid to subsequent works of Mackenbach *et al.* [13]

In most of the studies conducted so far, employability is connected with the level of education mainly due to more specialized qualifications that the graduates of universities have. Therefore, if we will be able to prove that education at the level of vocational high school provides qualifications desired on the labour market, then on this basis we are able to predict higher employability of the graduates of these schools and positive health results. The research shows that the unqualified employees are in the worst health condition, which is indicated by, among others, studies conducted in Ireland in 2008. It is also necessary to emphasize that a number of significant health problems is connected with unemployment (depression, other problems resulting from change of lifestyle, negligence or poverty). There is already sufficient scientific evidence in this aspect.

Conclusions from the studies that connect education and health clearly indicate that, effective primary and secondary education that correctly verifies and develops talents and creates skills is the key factor, which may guarantee achievement of not only individual but also population health benefits. Properly organized secondary education particularly including vocational schools can not only have positive influence on health but also general well-being of groups with secondary education, often exposed to exclusion resulting in unevenness [14]

Results of social research conducted in various European countries justify this subject. They indicate connection of better health condition and behaviour beneficial for it with higher qualifications, which usually meant higher education. In other words – the lower the socio-economic

status (particularly educational), the statistically worse the health behaviour, motivation to introduce changes in the lifestyle, and also in health. The lower the education status the higher the costs for the state (healthcare, social aid), and also limitations for the concerned themselves - e.g. smaller competitiveness on the labour market. Therefore, reduction of inequality in health between groups of employees with higher, secondary and low level of education is especially important. Efficient method to improve health, health behaviour and social inclusion of people with low and secondary education is to build and implement a specific education strategy, aimed at education of qualified employees/craftsmen and health education and promotion of health, adjusted to the possibilities and needs of this group.

Increase of stable employment, adjusted to the needs of employer in the age group of 18 to 24 (graduates of vocational schools) and increase of professional and social prestige of employees with vocational education requires broader analyses in the context of influence of these changes on condition of mental health (professional prestige), physical health, decrease of inequalities of health, improvement of styles and quality of life.

When it comes to behaviour, there are numerous studies showing a clear relation between low level of education and more frequent anti-health behaviour (i.e. smoking, alcohol consumption, improper diet, from the point of view of health, or lack of physical activity) [14] On the one hand, more frequent anti-health behaviour, and on the other hand less frequent prophylactic care of the characterized group contributes to deepening of the differences in health condition between low and highly qualified. When it comes to auto-evaluation of health condition of EU citizens depending on the completed level of education, the data of Eurostat indicate that the lower the education, the worse the evaluation of own health.

### III. RESULTS

The results will relate to the two main strands of the analysis undertaken

1. The situation of young people aged 18-24 in the labour market . Reforms of vocational education in Poland
2. Health impact assessments in relation to vocational training, Institutional analysis



*The situation of young people aged 18-24 in the labour market. Reforms of vocational education in Poland*

Demand for “white-collar employees” resulted in low unemployment and higher salary of university graduates [15]. In this situation educational preferences, as well as increasing educational ambitions of Poles became a catalyst for changes towards recognition of general education and then university education as the most desired. That led to a clear growth in the enrolment on the university level and less frequent continuation of education in vocational schools by graduates of primary schools, and then middle schools. At the same time, number of technical secondary schools graduates changed in a small degree: between 1995 and 2013 the share of people with higher vocational education decreased from over 30% to 15% where technical secondary schools graduates accordingly from 25% to 21%. Number of vocational schools also decreased, from almost 3 thousand in 1990/91 school year to only 1.800 in 2012/13 school year [16]. In 2012, only 41% of people aged 25-34 had vocational or post-secondary vocational education, whereas in generation of their parents – people aged 55-65 – these were 62% [5].

The main purpose of vocational education is to allow the graduates to find a satisfactory employment. Conducted studies show that 70% of vocational schools graduates aged 25-34 are employed, and thus these schools facilitate employment. This ratio is not much higher than the percentage of employed secondary school graduates, without professional qualifications. It can also be noticed that combination of professional skills with general ones facilitates employment for 76% of the graduates of technical secondary schools aged 25-34.

It is worth noting that difference in employment ratio between Poland and EU countries is caused by low employment among vocational schools graduates. In an age group from 25 to 34, Polish vocational schools graduates are employed less frequently than persons with the same education in Germany (88% of working), UK (80%) or Finland (80%) [16]. According to research from 2012, unemployment rate among young (25-34 years old) graduates of vocational education in Germany amounted to only 6%, but still it has to be noted that total unemployment rate in this age group in Germany was generally low and amounted to 5.5%. Effectiveness of the system is also confirmed by high percentage of young Germans who choose this education – In 2012, 47% of people aged 25-34 had secondary school education, while higher education amounted to – 41% [5]

There is a visible lack of teachers of professions demanded on the labour market in vocational schools. Acquisition of

new teachers is a growing problem – 67% of poviats in Poland have difficulties in finding teachers for vocational schools. Additionally, teachers rarely increase their qualifications. In particular, most of them have not obtained a minimum knowledge and skills in terms of new technologies [17] Employers are not motivated to forward modern technologies to schools – in 2010 in Poland only every fifth school cooperated with employers in order to improve usefulness of skills they teach [6]

Currently in Europe, self-control of the employee in development of culture of work safety is an important term functioning with regard to work environment, especially supervision over the safety of the employee. This refers to promotion of developing awareness of the employee in terms of risk and hazards at work. It is obvious that the higher the level of professional qualifications, the better preparation for the profession and knowledge of its specific nature related to it, also in the context of workplace, industry – the safer process of employee's work. What is more, it can be assumed that sense of professionalism, knowledge of the workshop, should positively influence the growth of such work culture (therefore, the implementation of trainings by employers especially targeted to the non-qualified employees is so crucial).

Polish model of vocational education would therefore be based on implementation of a part of education in a workplace under an agreement with CKP – the employer. The following would constitute a support for the dual system: the contract of employment between the student and the employer, contracts of schools with the employer and organisation of patronal classes. Poland, in the proposals of changes, aims to implement a dual model of vocational education based on well-organised local government, which is now present in Germany.

*Health Impact Assessment (HIA) in relation to vocational training. Institutions involved*

HIA process in relation to the vocational reform in Poland have been assigned with specific tasks taken/performed by institutions. A list of the most important, identified entities for the analysed area is presented below.

1. The European Union – The European Social Fund over the period of 2012–2015. Projects co-financed from the funds of the budget of the European Union. It had an influence on temporary improvement in the quality of vocational education and reduction of deficiencies in budget financing. However, foregoing and planned support of vocational education with the funds of the EU budget mainly applies to soft projects, e.g. various types of trainings. On the other hand, there is a

lack of hard projects, namely additional supply of vocational schools in modern materials, equipment, tools.

2. Central authorities (the Ministry of Labour and Social Policy, Ministry of Education, Ministry of Health, Ministry of Economy, Ministry of Development, Ministry of Forestry, Finance, Environment and other ministries) the Ministry as a government administration body at the central level is responsible for development of national policy – also in relation to the examined area. Some ministries also have the role of an authority conducting vocational schools (e.g. Minister of Agriculture and Rural Development, Minister of the Environment)
3. Decentralised authorities
  - a. The Voivod (Education Offices), labour office
  - b. Voivodeship government (planning function)
4. Poviats government (owner of secondary vocational schools, PIP, PCPR Poviat Centre/Centres of Education, Poviat Centre/Centres of Vocational Education)-is responsible for infrastructure, supervision, control including OSH, quality of education.
5. Gmina government (social aid, social campaigns)
6. Centres of Vocational Education
7. Centres of Practical Education
8. Centres of Continuing Education
9. Centres of Continuing and Practical Education
10. Centres of Vocational and Continuing Education
11. Government Centre/Centres of Vocational and Continuing Education
12. Centre/Centres of Vocational Training and Improvement
13. Regional Examination Commission
14. Employers, Association of Employers. Corporate Social Responsibility
15. Non-governmental organizations
16. Secondary schools (initial vocational schools, technical secondary schools, post-secondary schools)
17. Mass media
18. Teaching staff

#### IV. DISCUSSION

Diagnosis of the situation in terms of secondary and higher education in Poland indicates the long-term lack of systemic solutions for examination of demand and supply for qualified staff at the local and regional level, which results in wrong decisions in terms of vocational education.

It should be noticed that introduction of a system similar to a German dual system of vocational education in Poland may prove to be difficult and must not be connected with

decrease of the unemployment rate among young people to the levels typical for current German economy. It results from the following facts: Firstly, employment structure in Poland differs fundamentally from the German structure. In Germany graduates of vocational schools are usually employed in non-public services (secretaries, intermediate health personnel, finance and statistics employees) – 50%, and in Poland in industry (construction workers, vehicle operators, industrial workers) – 53%. Different employment structure by the size of companies could constitute another problem. In Poland graduates of vocational schools working in the industry are usually employed in small or medium companies, and in Germany in medium and large companies [17]. Dual system is created above all for large companies (in which integration of time devoted for the trainees in responsibilities of employees is organizationally easier than in small companies) and high level of cooperation of companies with each other, cooperation of schools and companies and representatives of employees. Owing to these characteristics implementation of this system in different environment is difficult, particularly in Poland where small companies play a more important role in the industry, and the model of employee relations and collective negotiations is characterized by smaller cooperation and coordination

In accordance with the report of Supreme Audit Office (SAO) of 2016, the system of vocational education is not entirely effective. It is influenced both by high unemployment rate among graduates of vocational schools (41%) and negative evaluation of their professional and general skills by the employers. Such situation is, above all, caused by mismatch of the offer of vocational schools to the needs of the labour market, which results from wrong identification of qualifications desired on the labour market and unsatisfactory conditions to learn the profession[18]

Another problem noticed by SAO is the insufficient and inadequate financing of vocational education from the state budget that does not include the actual costs of education in particular professions, which discourages the local government from decision on opening the fields of study that are expensive, but attractive to the market. Mechanism of division of the educational part of the general subvention does not include the actual cost consumption of education in particular professions. The division algorithm of educational subvention for the bodies conducting vocational schools adopted a uniform weight – independent from the field of education, its cost consumption, as well as requirements of core curriculum of vocational education. As a result, this situation strengthens the model of vocational education in which the decision on opening of a new field of education is determined mainly by owned infrastructure

and staff resources rather than the needs of students or labour market.

Provision of appropriate conditions and infrastructure for vocational education is an important problem of the poviats government- 40% of poviats governments had difficulties in this respect. This particularly referred to adjustment of the technological and teaching base to the requirements of new core curriculum. [18]

Poviat government, as the body conducting vocational schools, fails to meet its obligations in terms of supervision and control of subordinate units. As a result of SAO's control, lack of reaction of poviat authorities has been observed in terms of supervision in cases related to the condition of sanitary and hygienic safety or non-compliance with terms of completion of orders issued in this respect by bodies of sanitary inspection, as well as non-provision of relevant conditions and organization of the education process, breach of regulations concerning safety and hygiene, lack or incomplete implementation of objectives in terms of educational and professional counselling [18]

The control also indicated that some new fields of study reported to be opened by principals of schools were accepted by the provincial boards without reliable verification of the applications, recognition of needs in this respect, and sometimes against negative opinions of poviat and voivodeship employment councils, or in the event when the school had no qualified teaching staff and appropriate didactic base to teach the profession.

The Supreme Audit Office essentially positively evaluates actions undertaken by the Minister of Public Education to improve the vocational education system for the youth – however, it notes that system changes introduced in the period of 2012–2015 may prove to be insufficient. These changes included the reorganization of education structure, modification of the classification of professions, implementation of modernised core curriculum of vocational education and standardisation of examinations system confirming the professional qualifications.

In accordance with the report of SAO on vocational education there is also a lack of proper recognition of professional needs on the labour market. Studies and analyses of the job market carried out by the Minister of Labour and Social Policy in the period of 2012–2014 did not give full information on the needs of employers. Methodology of data collection adopted by the Minister on deficit and surplus professions was mainly based on information recorded by poviat and voivodeship labour offices. In order to monitor and analyse the job market the Minister of Labour and Social Policy, introduced new tools of information collection since 2015, using Internet analyses of job offers and results of questionnaires of entrepreneurs, which resulted

in improved recognition of employer's expectations. Employers who were asked about desired changes in the system of vocational education indicated, among others, the need to increase the number of hours of practical classes conducted in real work conditions, consider the needs of the labour market and increase the awareness of these factors already at the stage of middle school as well as modernization of school workshops.

## V.SUMMARY

Shortages in terms of effective vocational and health education of adults from marginalised groups are sufficiently well identified. Despite this assumption, theoretical and practical solutions of this education are not significantly proposed and developed in the context of social and health needs in this respect. The conducted analyses concerning vocational education show that this is an aspect requiring an in-depth analysis the results of which can be translated into educational and health-promoting actions in practice.

The indicated mutual connection between education and health implies the need to undertake actions in these areas consistently in cooperation of both sectors. Escalation of the approach on entities which are inter-sector, multi-branch, involving in the process of restoration of a significant place to vocational education and entities directly interested is needed: both micro, small and medium entrepreneurs and large companies. The first two groups have the greatest share in creation of work places in Poland, the last one – the largest resources and technological opportunities. Such changes – focused on making better, effective intervention – require introduction of tools and HIA model to the decision-making processes. However, the use of HIA in the decision-making process requires employment of appropriately qualified staff of officials, who are able to perform multi-sectoral, interdisciplinary challenges, ensuring effective inter-sector cooperation.

Engagement of other sectors in operations for the benefit of health is easier with strong leadership, both at the governmental and self-governmental level, obtained with appropriate transfer of competences and appropriate regulations. It is also necessary to base on scientific evidence, increasing the awareness on how other sectors affect health. Thus the ability to reach this evidence, to interpret it and present it to involved parties is important, at the same time pointing out the impact their actions have on health.

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