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Resolving the Debate Over Human Pappiloma Virus (HPV) Vaccination for Cancer Prevention in the Religious World

Human Papilloma Virus (HPV) is a sexually transmitted virus that infects more than 79,000,000 Americans and causes virtually all cancers of the cervix, anus, vulva, vagina, penis, and many oropharyngeal cancers and anogenital warts.[1] A recent study has

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[1] William Bonnez and Richard Reichman, "Papillomaviruses," in *Principles and Practice of Infectious Diseases, Fifth Edition*, ed. Gerald Mandell, John Bennett, and Raphael Dolin (Philadelphia: Churchill Livingston, 2000), 1630; Eduardo Franco, Eliane Duarte-Franco, and Alex Ferenczy, "Cervical Cancer: Epidemiology, Prevention and the Role of Human Papillomavirus Infection," *Canadian Medical Association Journal* 164: 7 (April 2001), 1017-1025; Thomas Sedlacek, "Advances in the Diagnosis and Treatment of Human Papillomavirus Infections." *Clini*cal *Obstetrics and Gyneco*logy 42:2 (June 1999), 206-220; Christopher Sonnex, "Human Papillomavirus Infection with Particular Reference to Genital Disease," *Journal of Clinical Pathology* 51: 9 (September 1998), 643–48; Silvia de Sanjosé, Laia Alemany, and Jaume Ordi."Worldwide Human Papillomavirus Genotype Attribution in over 2000 Cases of Intraepithelial and Invasive Lesions of the Vulva," *European Journal of Cancer* 49:16 (November 2013), 3450-61; Hugo De Vuyst, et. al., "Prevalence and Type Distribution of Human Papillomavirus in Carcinoma and Intraepithelial Neoplasia of the Vulva, Vagina and Anus: a Meta-Analysis," *International Journal of Cancer* 124:7 (April 2009), 1626-36; Anna-Barbara Moscicki, et al., "Screening for Anal Cancer in Women." *Journal of Lower Genital Tract Disease* 19:301 (July 2015), S26-S41; Joel M. Palefsky, "Human Papillomavirus-Associated Anal and Cervical Cancers in HIV-Infected Individuals: Incidence and Prevention in the Antiretroviral Therapy Era," *Current Opinion HIV and AIDS* 12:26 (January 2017), 26-30; Gypsyamber D'Souza, et al., "Case-Control Study of Human Papillomavirus and Oropharyngeal Cancer." *New England Journal of Medicine* 356:19 (May 2007), 1944-56; Jon, A. Mork, et al., "Human Papillomavirus Infection as a Risk Factor for Squamous-Cell Carcinoma of

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shown that by 2020, HPV, transmitted by oro-genital contact, will likely cause more cases of oropharyngeal cancer than cervical cancer in the US.[2] Since 2006, an HPV vaccine, has become available. The HPV vaccine is part of national immunization programs in 67 countries, including the United States and Israel.[3] For HPV vaccination to prevent infection, vaccination must occur prior to exposure; it is typically administered to boys and girls around puberty. Several large, randomized trials have shown that the HPV vaccine prevents HPV infection and significantly reduces cervical intraepithelial neoplasia 2 (CIN), a precursor lesion to invasive cervical cancer.[4] As the HPV vaccine was only introduced in 2006 and the average time from HPV exposure to development of preinvasive cancer is 10 years and 15-20 years for invasive cancer, several additional years of

the Head and Neck," *New England Journal of Medicine* 344: 15 (April 2001), 1125-31; Maura Gillison, et al., "Prevalence of Oral HPV Infection in the United States, 2009-2010," *Journal of the American Medical Association* 307:7(2012), 693-703; Xiangwei Li, et al., "Human Papillomavirus Infection and Laryngeal Cancer Risk: a Systematic Review and Meta-Analysis." *The Journal of Infectious Diseases* 207:3 (February 2013), 479-88; Angel Allen and Elaine Siegfried, "What's New in Human Papillomavirus Infection." Current Opinion in Pediatrics 12:4 (August 2000), 365-9; FUTURE II Study Group, "Quadrivalent Vaccine Against Human Papillomavirus to Prevent High-Grade Cervical Lesions," *New England Journal of Medicine* 356:19 (May 2007), 1915-27; Laura Koutsky, "Epidemiology of Genital Human Papillomavirus Infection," *The American Journal of* 102: 5 (May 1997), 3-8; Susanne Krüger Kjaer, et al., "The Burden of Genital Warts: a Study of Nearly 70,000 Women from the General Female Population in the 4 Nordic Countries," *The Journal of Infectious Disease* 196:10 (November 2007), 1447-54; Amy Leval, "Incidence of Genital Warts in Sweden Before and After Quadrivalent Human Papillomavirus Vaccine Availability," *The Journal of Infectious Diseases* 206: 6 (September 2012), 860-6.

[2] Anil K. Chaturbedi, et al. "Human Papillomavirus and Rising Oropharyngeal Cancer Incidence in the United States." *Journal of Clinical Oncology* 29 (32) (November 2011), 4294-301.

[3] World Health Organization (WHO) Immunization Vaccines and Biologicals (IVB), "Vaccine in National Immunization Programe Update June 2016," WHO/IVB database, last modified June 26, 2016, accessible at http://www.who.int/entity/immunization/monitoring_surveillance/VaccineIntroStatus.pptx?ua=1.

[4] Suzanne M. Garland, et al., "Quadrivalent Vaccine Against Human Papillomavirus to Prevent Anogenital Diseases," *The New England Journal of Medicine* 356:19 (May 2007), 1928-43; FUTURE II Study Group. "Quadrivalent Vaccine"; Elmar A. Joura, et al., "A 9-valent HPV Vaccine Against Infection and Intraepithelial Neoplasia in Women," *The New England Journal of Medicine* 372: 8 (February 2015), 711-23; Jorma A. Paavonen et al., "Efficacy of Human Papillomavirus (HPV)-16/18 AS04-adjuvanted Vaccine Against Cervical Infection and Precancer Caused by Oncogenic HPV Types (PATRICIA): Final Analysis of a Double-Blind, Randomised Study in Young Women," *The Lancet* 374: 9686 (July 2009), 301-14; Allan Hildesheim, et al., "Efficacy of the HPV-16/18 Vaccine: Final According to Protocol Results from the Blinded Phase of the Randomized Costa Rica HPV-16/18 Vaccine Trial," *Vaccine* 32:39 (September 2014), 5087-97.

follow up will be necessary to demonstrate reductions in invasive cervical cancer and decreased cancer mortality.[5] Therefore, no study to date can show that HPV vaccination significantly reduces the incidence of invasive cervical cancer. With additional follow up, the already documented decreases in HPV related disease and CIN associated with the vaccine should translate into significant reductions in invasive cervical cancer. Rigorous scientific investigation has shown that the side effects of HPV vaccine are minimal, consisting primarily of mild skin changes.[6]

HPV VACCINATION IN THE ORTHODOX COMMUNITY

In 1901, William Braithwaite reported lower incidence of cervical cancer among Jews in Leeds General Hospital, presumably due to religious observance of circumcision and lower rates of sexual promiscuity, as compared to Western society.[7] Today, Israel has one of the lowest rates of cervical cancer in the world, with approximately 200 newly diagnosed cases of invasive cervical cancer annually and approximately 70 deaths.[8] It is estimated that the vaccine could prevent 5000 cases of genital warts and precancerous lesions annually. Cost effectiveness studies have shown that HPV vaccination (estimating a cost of 70 shekel per vaccine) is cost saving in the Israeli population.[9] Although the rate of HPV vaccination among Orthodox Jews in the United States is unknown, in the UK, where over 75% of girls between 12 and 13 years of age are vaccinated, only 50% of Orthodox girls receive the vaccine because parents do not believe their daughters are at risk for sexually transmitted disease[10] In 2013, the Israel Ministry of Health introduced the vaccine for all

[5] Philip E. Castle, et al., "Age-appropriate Use of Human Papillomavirus Vaccines in the U.S," *Gynecologic Oncology* 114:2 (August 2009), 365-9; World Health Organization, "Human Papillomavirus (HPV) and Cervical Cancer – Fact Sheet," last modified June 2016, accessible at http://www.who.int/mediacentre/factsheets/fs380/en/.

[6] World Health Organization, "Global Advisory Committee on Vaccine Safety Statement on the Continued Safety of HPV Vaccination," last modified March 12, 2014, accessible at http://www.who.int/vaccine_safety/committee/topics/hpv/GACVS_Statement_HPV_12_Mar_2014.pdf.

[7] William J. Braithwaite, "Excess of Salt in the Diet: a Probable Factor in the Causation of Cancer." *Lancet* ii (1901), 1578–80.

[8] Israel Cancer Association, "Cervical Cancer - Early Detection," accessible at http://en.cancer.org.il/template_e/default.aspx?PageId=9136 (accessed March 21, 2018).

[9] Gary Ginsberg, "Cost-Utility Analysis of Vaccination Against HPV in Israel." *Vaccine* 25:37-38 (2007), 6677-91.

[10] Daniel Gordon, et al., "Attitudes to HPV Vaccination Among Mothers in the British Jewish Community: Reasons for Accepting or Declining the Vaccine," *Vaccine* 29:43 (October 2011), 7350-56.

eighth-grade girls. The overall rates of HPV vaccination across the country and in Jerusalem were 59% and 23.4 %, respectively compared to 96% for conventional vaccinations.[11] Critics of the vaccine in Israel argue that the side effects of HPV vaccination are dangerous, there is no proven reduction in the incidence in cervical cancer, and PAP smear, which presumably detects cervical cancer at an early, curable stage in the absence of HPV vaccination, is a better approach. Furthermore, given the low incidence of cervical cancer in Israel, the government would need to vaccinate 20,000 girls to prevent even one case of cervical cancer. Additionally, the religious community has been particularly vociferous against vaccination, claiming that vaccination is irrelevant in their communities since there is no promiscuity and little risk of HPV infection, vaccination will foster promiscuity, students who receive the vaccine and schools which administer it will be labeled promiscuous and religiously weak, and vaccination will force parents to discuss promiscuity with their children.

In the light of the controversy surrounding the HPV vaccine in the Orthodox world, this article seeks to determine how halakha should approach the HPV vaccine.

DOES HALAKHAH OBLIGATE DISEASE PREVENTION?

The oft-cited biblical source for the halakhic obligation to prevent disease is "*ve-nishmartem me'od le-nafshoteikhem*," "And you shall protect your souls exceedingly," (Deuteronomy 4:15) and "*rak hishamer lekha u-shemor nafshekha*," "only guard yourself and protect your soul" (Deuteronomy 4:9). Rambam in *Hilkhot Rotse'ah u-Shemirat ha-Nefesh* 11:4 describes the mitsva to remove deadly obstacles and avoid lethal situations. Anyone who fails to do so violates the positive commandment of *"hishamer lekha"* and violates the negative commandment of "*ve-lo tasim damim"* (Deuteronomy 22:8). *Shulhan Arukh Hoshen Mishpat* 427:8 codifies this mitsva into law.

Does the Obligation to Prevent Disease Depend on a Threshold Level of Risk?

From the mitsva to build a *ma'ake*, *Shulhan Arukh Hoshen Mishpat* 427:5 derives the obligation to remove dangerous objects and animals,

[11] Judy Siegel-Itzkovich, "Only a Quarter of Gr. 8 Jerusalem Girls Vaccinated for HPV," *Jerusalem Post*, October 19, 2016, accessible at http://www.jpost.com/Business-and-Innovation/Health-and-Science/Only-a-quarter-of-Gr-8-Jerusalem-girls-vaccinated-for-HPV-470385.

dangerous situations, foods, and activities from our surroundings in order to avoid death or severe injury.

Shulhan Arukh does not mention a specific threshold of danger to obligate disease prevention and proscribes against these situations despite the remote likelihood of danger, indicating that even in a situation where danger and harm were extremely unlikely and the chances of contracting disease remote, the obligation to prevent disease persists. For example, the *Shulhan Arukh* cites the obligation to construct a parapet for a room as low as 10 *tefahim* (approximately 3 feet), although the likelihood of falling from such a low height and injuring oneself appears remote. In his discussion of the prohibition against drinking *mayim megulim* (water potentially exposed to venomous snakes which could have rendered the water dangerous for human potage), *Iggrot Moshe Orah Ha'im* II:100 suggests that the restriction against drinking this water exists even when the possibility of contamination by snake venom is extremely unlikely, confirming that the level of risk required to obligate disease prevention could be almost remote. Thus, the obligation to prevent disease exists even when the risk of infection is minimal. Furthermore, although the process of building a *ma'ake* could pose a danger to the homeowner, this risk of injury does not nullify the obligation to install one. In other words, one may even be permitted to incur a risk to one's own health (such as exposing oneself to potential side effects of a vaccine) when fulfilling the obligation to eliminate danger. Additionally, the Rama *Yore De'a* 116:5 clearly states that the obligation to prevent disease is not limited to the activities codified in the Shulhan Arukh but extends to any activity or behavior which causes danger.

Interestingly, in their discussion of what one must do to prevent disease, Shulhan Arukh and Rambam list behaviors of omission, avoiding dangerous objects and situations, and offer few if any active behaviors to promote health. Rama's prescription to flee the city to avoid the plague, placing oneself at risk of vagrants on the road, represents an active behavior to prevent disease and suggests that the obligation to prevent disease requires taking action even when the action itself incurs risk. In other words, one must not wait until the danger is upon oneself but must safeguard health prior to exposure to risk. One does not wait until the snake emits venom in the water even if an antivenom is available, but should avoid all water that has the potential to be contaminated, averting even a remote danger.

Thus, the halakhic obligation to prevent disease has no minimum level of risk, may involve incurring some level of risk to prevent disease or future danger, involves active behaviors to prevent disease, and can impose on the

individual communal responsibilities. Additionally, the obligation requires preemptive action before the danger arrives, even when the risk is minimal.

DOES HALAKHA OBLIGATE VACCINATION IN GENERAL?

Lessons from Smallpox Vaccination

As noted, Rama clearly states that in a time of plague, one must take active measures and flee the city at the earliest stage, when disease burden is the least. Clearly, one may not sit around and do nothing if one is at risk. Halakhic authorities have addressed the obligation to vaccinate in the context of the smallpox vaccine.

In 1785 London, Rabbi Abraham Nanzig, who lost a son and daughter to smallpox, wrote *Aleh Terufa*, strongly endorsing variolation, a precursor to vaccination involving deliberate infection of healthy individuals with smallpox, causing a mild form of the disease but resulting in immunity once the recipient recovers.[12] He describes that the Rif permitted a primitive form of variolation in which a child who had survived smallpox was given a handful of raisins to warm in his hand. The raisins were then given to a healthy child to eat causing mild infection and subsequent immunity. Rabbi Nanzig writes,

> "It is as if we were treating an illness currently present, since all his days he suffers with worry that he will contract the disease as an adult, when it is more dangerous, as is well known. As for the death of one in a thousand, this is insufficient grounds to classify it as a danger... For such a negligible risk as this, we do not reject so great a benefit."[13]

Rabbi Nanzig argues that variolation falls under the rubric of *"ve-nishmartem me'od le-nafshoteikhem*," despite the fact that it is associated with a 1 in 1000 chance of death. Interestingly, a 0.001 risk of contracting small pox from variolation was acceptable in 1785 when the mortality rate from small pox was so high. A one in a thousand risk of death from vaccination would not be acceptable today. Fifty years ago, the risk of death from smallpox vaccine was one in a million, one thousand times safer than variolation.[14] If variolation

[12] Avraham Nanzig, *Aleh Terufa* (London: Alexander Bar Yehuda and His Son, Yehuda Lev, 1785).

[13] Avraham Nanzig, *Aleh Terufa* (London: Alexander Bar Yehuda and His Son, Yehuda Lev, 1785).

[14] Centers for Disease Control and Prevention, "Frequently Asked Questions about HPV Vaccine Safety," last modified February 21, 2018, accessible at https://www.cdc.gov/vaccinesafety/vaccines/hpv/hpv-safety-faqs.html#A7.

with a 0.001 risk of death is considered a mitsva, certainly HPV vaccine, which is not associated with death would also be considered a mitsva.

After Edward Jenner discovered a vaccine against small pox in 1796, Rabbi Nahman of Bratslav strongly endorsed vaccination and considered failure to vaccinate *sakkanat nefashot.*[15] Rabbi Nahman's endorsement of the vaccine is particularly noteworthy given his distrust of physicians. Rabbi Nanzig and Rabbi Nahman issued their endorsements of vaccination in the midst of smallpox epidemics.[16] Does the obligation to vaccinate exist in the absence of an epidemic?

The Obligation to Vaccinate in the Modern Era

Regarding the obligation to vaccinate today, Rav Yosef Carmel, Rav Zalman Nechemia Goldberg, Rav Nahum Rabinovitch, and Rav Yisrael Rozen authored a position paper citing an obligation to vaccinate against certain diseases when the majority of doctors recommend vaccination or even when there is a lack of medical consensus regarding the mandatory nature of the specific vaccine. This position is based on the principle that if two doctors believe that a medical treatment will lead to *pikku'ah nefesh* and 100 doctors argue that the treatment will not be *pikku'ah nefesh*, we accept a minority dissenting opinion because of *safek pikku'ah nefesh le-humra*.[17] The ultimate testimony to the status of vaccination in halakha is Rav Shlomo Zalman Auerbach's landmark ruling permitting tetanus vaccination on Shabbat if foregoing vaccine on Shabbat would create an unacceptable delay. By permitting vaccination on Shabbat, Rav Shlomo Zalman Auerbach classifies vaccination as a form of *pikku'ah nefesh*, which overrides the prohibitions of Shabbat.[18]

Refusing vaccination not only has implications and consequences for the individual but for the community at large due to herd immunity, the phenomenon that vaccination of a significant portion of a population provides protection even for individuals who have not developed immunity. Thus, by refusing vaccination the individual increases the risk of his own infection and the infection of others. Even if an individual may be permitted to refuse vaccination for himself and accept the risk of contracting the infectious disease, he may still be obligated to vaccinate for the good of society. What may be a low-level and acceptable risk for an individual can become a life-threatening

[15] *Kuntres Hanhagot Yesharot* (Hasidei Bratslav, Jerusalem, 1997), pp. 5-6.

[16] For a detailed discussion of *holeh lefaneinu,* see below.

[17] Moshe Ehrenreich, et al., "Halakhic Obligation to Vaccinate," *Yeshiva*, December 2013, accessible at https://www.yeshiva.org.il/midrash/23538.

[18] *Minhat Shlomo* vol. 2, 29:4.

epidemic for an entire community. Thus, when considering the public health of the entire community, where there is *safek pikku'ah nefesh de-rabbim*, the level of risk obligating vaccination may be significantly lower than that which is required to obligate an individual. In regard to inoculation, Rav Shlomo Zalman Auerbach has said, "the issue was one of danger to the lives of many. Where saving lives is concerned, we do not "follow the majority" (i.e., demand that the risk is over 50%) and where many lives are concerned, we worry about very rare situations."[19]

Halakha endows the individual with the obligation to prevent not only personal infection but also infection of the larger community. An individual who refuses inoculation has the potential to transmit disease which causes pain and suffering. Rabbi Mordechai Halperin classifies someone who refuses inoculation, consequently diluting and undermining herd immunity, as a '"*rotse'ah be-gramma*' (an indirect murderer) and a *mazzik* (one who damages), which, according to Rabbenu Yonah (*Avot* 1:1), is a subcategory of *gezel* (theft)."[20]

Thus, there is clearly a halakhic obligation to vaccinate even if vaccination is associated with risk of infection. This obligation exists not only when the majority of doctors recommend vaccination but even when a minority endorses prevention. Vaccination may be performed on Shabbat if a significant delay would occur by forgoing vaccine on Shabbat, elevating the status of vaccination to the category of *pikku'ah nefesh*. An individual who refuses vaccination undermines herd immunity, increases the risk of infection to those around him and thus poses a risk to society at large and may have the halakhic status of a *mazzik,* one who damages, or a *gazlan*, a thief. Finally, *safek sakkana de-rabbim*, concerns for the safety of the general public and larger community, may justify vaccination even when there is a minimal risk of infection.

DOES HALAKHA OBLIGATE HPV VACCINATION?

Although the halakhic principles that require vaccination in general should in theory obligate HPV vaccination, several questions arise regarding a potential obligation to vaccinate against HPV, which will be addressed.

[19] Mordechai Halperin, "The Laws of Saving Lives: The Teachings of Rabbi S. Z. Auerbach." *Jewish Medical Ethics* 3:1 (January 1997), 44-49.
[20] ibid.

Does the Overwhelming Endorsement of the HPV Vaccine by the International Medical Community Create a Halakhic Obligation to Vaccinate?

An important argument in favor of HPV vaccine is that the vaccine has been endorsed by the World Health Organization and over 100 countries. This endorsement creates a halakhic obligation to undergo HPV vaccination. Rabbi Akiva Tatz describes a personal communication with Rav Yosef Shalom Elyashiv regarding the permissibility of vaccine refusal. He writes:

> The question was put to Rabbi Elyashiv, who ruled that the parents should accede to immunization despite their concerns. When asked if the reason behind this ruling was the issue of fairness and the obligation to share responsibility, Rabbi Elyashiv indicated that it was; his reason was that since immunization of children is normal practice throughout the world, one should follow that normative course. In fact, Rabbi Elyashiv went so far as to assert that failure to immunize would amount to negligence. Refusing childhood immunizations on the basis of unsubstantiated fears of vaccine side-effects is irresponsible and out of order halakhically. The danger of precipitating epidemics of measles, poliomyelitis and other diseases with potentially devastating complications is far more real than the dangers attributed to vaccines on the basis of anecdotal claims. Until objective evidence to the contrary accrues, the halakhically correct approach is to do what is normal. In addition, a legitimate government's legislation concerning standards of medical conduct adds weight to their halakhic acceptability.[21]

Rav Elyashiv reasons that since childhood vaccinations are the accepted and standard practice, parents are obligated to vaccinate their children. He derives this obligation from Rambam, *Hilkhot De'ot* 4:1, which defines healthy living as proper service of God. Rav Elyashiv understands that when Rambam recommends practices to maintain health, these recommendations are not based on a risk-benefit analysis but rather what was considered prudent and "normative." Rav Shlomo Zalman Auerbach, as cited by *Nishmat Avraham, Hoshen Mishpat* 427, believes Rambam based his guidelines for healthy living on the best medical advice available in his generation: "Rav Shlomo Zalman Auerbach… told me that 'the Rambam wrote the whole chapter based on the medical knowledge of his day. Similarly, we must act according to the medical knowledge of our day.'"

[21] Akiva Tatz, "Approach to Risk in Halacha," *Dangerous Diseases Dangerous Therapy in Jewish Medical Ethics* (Southfield, Targum Press, 2010), 48. (A personal communication with Rabbi Tatz on February 23, 2018 confirmed that this conversation occurred in Rav Elyashiv's home in Jerusalem.)

Rabbi Herschel Schachter argues that when the government mandates vaccination, the principle of *dina de-malkhuta dina* (the law of the land is the law) obligates vaccination.[22]

In this author's view, because vaccination against HPV is "what is normal" and recommended by over 100 countries and most international medical organizations and halakha require doing what is normal and medically indicated, following the law of the land, and recommendations of physicians, governments, and medical organizations halakha would obligate HPV vaccination.

Does Communal Responsibility to Maximize Herd Immunity also Establish an Obligation to Vaccinate Against HPV?

Rav Asher Weiss suggests that communal responsibility and efforts to maximize herd immunity create a halakhic obligation to vaccinate. When asked about parents' refusal to vaccinate their children against measles, Rav Weiss stated, "All the world agrees that without vaccination thousands of people could perish."[23] He derives the obligation to vaccinate from *Yerushalmi Bava Metsia* 4:2 and *Sanhedrin* 109b describing robbery in Sodom and the Noahite generation:

> In each case, the individual says, 'I will only take one brick, or one garlic or onion or one grain of beans less than a *perutah*, such a small amount that the individual would not be guilty of *gezel*.' If only one person stole, the merchant would survive, but if each individual steals, the merchant will have nothing. Similarly, if only one individual refuses vaccination, society will not be at risk, although the individual may be guilty of *gezel* as he benefits from the lower risk of infection which results from the rest of society deciding to vaccinate and assume the discomfort and risk of vaccination. But if everyone refused, there would be an epidemic and the refusal of many individuals would harm all of society. *Bava Batra* 8a very clearly states the principle that every individual, even an orphan, must contribute to protecting a city whether paying money for security or participating in security. If one person refuses to pay, the city will not be in danger, but if everyone refuses, the city will be in grave danger. Each individual must pay

[22] Aaron Glatt, et al., "Compelled to Inoculate: May Parents refuse Vaccinations for Their Children?" *Journal of Halacha and Contemporary Society* LXV (Spring 2013/Pesach 5773), 55-72; Asher Bush, "Vaccination in Halakhah and in Practice in the Orthodox Jewish Community." *Hakirah, The Flatbush Journal of Jewish Law and Thought*. 13 (2011), 185-212.

[23] Yarchei Kallah Aggudath Israel Jerusalem, Israel, 2018, video accessible at https://vimeo.com/251630557.

> the fee and do his service. It's exactly the same regarding vaccinations. Your child is safe because all the others took the discomfort and the remote danger of vaccinating their children. You must do the same and to me this is as clear as daylight. Everyone must vaccinate.[24]

If everyone refuses HPV vaccination, it seems to the author that society at large is in danger. Communal responsibility to maximize herd immunity, protect public health and prevent *sakkana de-rabbim* obligate HPV vaccination.

Is the Halakhic Obligation to Undergo HPV Vaccination Attenuated or Nullified by the Halakhic Principle "*Shomer Peta'im Hashem*"?

The halakhic principle "*shomer peta'im Hashem*" – "God protects the simple" (Psalms 116:6) cited in *Shabbat* 129b; *Yevamot* 12b, 72a and 100b; *Ketubot* 39a; *Nedarim* 35b; *Avoda Zara* 30b; and *Nidda* 45a permits behaviors that carry some level of risk if the risk is remote and society accepts such risks. For example, though potentially dangerous, driving a car is permitted due to *shomer peta'im*, as the risk of an accident is negligible and accepted by society. However, *shomer peta'im* cannot be invoked to justify withholding HPV vaccination for the following reasons:

1. *Shomer peta'im* legitimizes assuming some level of risk for the performance of a mitsvah and for livelihood. *Noda bi-Yehuda* in *Mahadura Tinyana*, no. 10, permits hunting as a profession but not as a sport and writes that if someone endangers himself to pursue a mere desire, he violates the obligation of *ve-nishmartem*" (Deuteronomy 4:15). Refusing vaccination is comparable to endangering oneself out of desire. For *Noda bi-Yehuda*, vaccination would be obligatory.
2. Society has refused to accept the risks of HPV infection, with the World Health Organization and over 100 countries overwhelmingly endorsing the vaccine and public health initiatives to encourage vaccination. Because vaccine refusal violates the recommendation of the international medical community, society does not accept the risks of vaccine refusal and *shomer peta'im* cannot condone vaccine refusal.
3. *Shomer peta'im* cannot justify accepting some level of danger if the danger can be eliminated. In *Iggrot Moshe, Even ha-Ezer* IV:10, Rav Moshe Feinstein was asked about the permissibility of Tay-Sachs testing prior to marriage. He concluded that testing was permitted and that one could no longer rely on *shomer peta'im* to assume the

[24] Ibid.

> risk of Tay-Sachs if a treatment exists to reduce this risk. Similarly, *shomer peta'im* cannot justify accepting the danger of HPV infection if a vaccine is available to reduce this risk.

Relying on *shomer peta'im* to protect against HPV infection when an effective vaccine exists may qualify as negligence, as cited above by Rav Elyashiv.[25] *Shomer peta'im* does not attenuate the obligation to undergo HPV vaccination.

Is the Halakhic Obligation to Undergo the HPV Vaccination Attenuated or Nullified by PAP Smear Screening Programs to Diagnose Cervical Cancers?

PAP smear, which involves scraping and examining cells from the opening of the cervix under a microscope, is a screening test recommended for all women at regular intervals throughout adulthood to detect cervical cancer at an early, potentially curable stage. Critics of HPV vaccination argue that PAP smear enables early detection of cervical cancer, nullifying any halakhic obligation to vaccinate against HPV.[26]

This argument is incorrect. When choosing between medical treatments, halakha advances the most effective medical approach. a principle articulated by Rav Moshe Feinstein in *Iggrot Moshe, Hoshen Mishpat* II:74, "It is more logical to assume that there is an absolute halakhic obligation for every patient to seek the best medical or surgical treatment." Halakha would favor performing HPV vaccination in addition to PAP smear screening, as this is "the best medical treatment."

Defining "The Best Medical Treatment" for Prevention of Cervical Cancer: HPV Vaccination vs. PAP Smear

While there are currently no randomized data comparing the efficacy of HPV vaccination with routine PAP smear, the Advisory Committee on Immunization Practices (ACIP) in the United States, the American Academy of Pediatrics (AAP), the American Academy of Family Practice (AAFP), the American College of Obstetricians and Gynecologists (ACOG), the American Cancer Society (ACS), the American Society of Clinical Oncology (ASCO) and the International Papillomavirus Society do not recommend PAP smear alone, but rather routine HPV

[25] Akiva Tatz, "Approach to Risk in Halacha."
[26] Personal communication with Professor Avraham Steinberg,, October 2017.

vaccination for all males and females in conjunction with PAP smear.[27] The only countries in the world for which an international medical organization recommends PAP smear alone in the absence of HPV vaccination are Vietnam and Thailand, resource-poor countries whose health care systems are far inferior to the Israeli or American medical systems. PAP smear alone is substandard medical care and does not fulfill Rav Moshe Feinstein's halakhic criterion of "the best medical treatment."

Defining "The Best Medical Treatment": Comparing Primary Prevention with Secondary Prevention

Furthermore, from an epidemiologic perspective, primary prevention with a vaccine is preferable to secondary prevention (early diagnosis with PAP smear). For example, a lung cancer prevention strategy that does not include smoking cessation programs (primary prevention) but focuses exclusively on early detection alone with chest x-rays and CT scans would be less successful because early detection does not always diagnose disease when it is curable and preventing initial disease is more effective than early detection. Although studies have not yet shown that vaccination reduces the incidence of invasive cervical cancer, longer follow up will confirm the superiority of vaccination over PAP smear in preventing cervical cancer. As primary prevention is "the best medical treatment," halakha favors HPV vaccination over PAP smear.

Poor Compliance with PAP Smears

Poor PAP smear compliance further establishes HPV vaccination as "the best medical treatment". HPV vaccine involves two injections over six months in adolescence with no additional medical visits,[28] while PAP smear is performed every 3-5 years throughout adulthood and requires intensive, vigilant follow up. PAP smear compliance is low in Israel compared to the OECD (45% and 60% respectively)[29] and interventions to increase compliance have a marginal impact and are

[27] Joel M. Palefsky, "Human Papillomavirus Infections: Epidemiology and Disease Associations," *UpToDate,* last modified December 13, 2017, accessible at https://www.uptodate.com/contents/human-papillomavirus-infections-epidemiology-and-disease-associations?source=history_widget.

[28] Until further data determine the safety of omitting PAP smear in women who have undergone HPV vaccination, the current medical recommendation for such women is to continue to undergo PAP smears.

[29] This data is according to the National Health Survey INHIS-2 implemented by the Israel Center for Disease Control of the Ministry of Health from 2007-10, among

unlikely to achieve 100% participation. In addition, the false-negative rate of PAP smear is 20-45%. Abnormal PAP smears demand additional compliance with follow-up retesting and treatments which may reduce fertility and are uncomfortable and potentially avoidable had vaccination prevented initial HPV infection. Finally, compliance with PAP smear screening does not guarantee diagnosis of cervical cancer at a curable stage.[30]

In summary, halakha, which opts for "the best medical treatment," favors HPV vaccine for the following reasons:

1. PAP smear alone represents substandard treatment.
2. Primary prevention with a vaccine is "better medical treatment" than secondary prevention
3. PAP smear demands lifetime compliance with screening and follow up procedures while HPV requires two injections.

Is the Halakhic Obligation to Undergo HPV Vaccination Attenuated or Nullified by the Low Incidence of Cervical Cancer Among Jews in General and in Israel in Particular? Defining a Threshold Level of Risk Obligating Vaccination

Rabbi Baruch Efrati has argued that, given the low incidence of cervical cancer among Jews in Israel, religious girls and perhaps even secular girls should not undergo vaccination.[31] He bases his position on Rabbi Akiva Eiger's analysis of *Shabbat* 45a, which discusses the permissibility of moving a *menorah* on Shabbat after the candles are extinguished to prevent harm from the Chabarins, a Persian people who forbade lighting Chanukah candles. The Talmud concludes that during a time of emergency moving the menorah is permitted but Rashi, *Shabbat* 45a, qualifies that if it were not a time of emergency, moving the menorah would be prohibited. From this passage, Rabbi Akiva Eiger derives that violating halakha is permitted to prevent danger if the risk is 1 in 1000.[32] Because the risk of

women aged 21 and over, and the OECD report for 2013, which refers to women aged 20-69.

[30] Bengt Andrae, et al., "Screening and Cervical Cancer Cure: Population Based Cohort Study." *The British Medical Journal* 344:e900 (March 2012), 1-11. In this Swedish study of 1230 women whose cancers were found by the Pap test cure rate was 92 percent cure rate compared to 66 percent among women who did not undergo routine PAP smear.

[31] Baruch Efrati, "We are Not in Sedom, there is No Place for Inoculation Against HPV in Religious High Schools," *Srugim*, October 21, 2013, accessible at http://www.srugim.co.il/57743-הרב-אפרתי-אנחנו-לא-בסדום-אין-מקום-לחיס.

[32] Responsa *Rabbi Akiva Eiger*, 60.

cervical cancer in Israel is substantially less than 1 in 1000 and there is not even a *safek pikku'ah nefesh*, Rav Efrati concludes that the vaccine should not be offered.

There are several flaws in Rav Efrati's reasoning and conclusions:

1. When Rabbi Akiva Eiger defines danger as something which carries a risk of 1 in 1000, he is determining the level of risk required to justify transgressing halakha. For example, does a 1 in 1000 risk of death or disease justify violating the laws of *hatsitsa,* immersing in a ritual bath with a uterine ring in place, or violating the prohibition of moving objects from the public to private domain on Shabbat. The 1 in 1000 risk is irrelevant to halakhic recommendations regarding HPV vaccination, as vaccination does not cause one to violate halakha.
2. Even if one requires a threshold risk of 1 in 1000 to justify medical interventions, this threshold applies only to the individual, not to the general public. When evaluating a risk to the public, known in halakhic terminology as a *safek sakkana de-rabbim*, negligible risks even smaller than 1 in 1000 may justify HPV vaccination to prevent infection and an epidemic. The halakhic approach to autopsy offers a precedent for lowering the threshold level of risk when considering danger to the public compared to the individual. *Noda bi-Yehuda* permitted autopsy only when there is a *holeh lefaneinu*, a known patient who would benefit directly from autopsy.[33] If one is not aware of a person with a similar disease whose treatment could be affected by autopsy, autopsy is not sanctioned. Rav Yechiel Yaakov Weinberg states that the world has changed since the time of the *Noda bi-Yehudah*, with rapid communication allowing for countless patients across the world to benefit from an autopsy thousands of miles away. He broadens the *Noda bi-Yehuda's* definition of *holeh lefaneinu* to any sick, potentially unknown person anywhere in the world, not restricting the definition to the individual doctor's small medical practice. Thus, the *Seridei Eish* permits an autopsy if there is a disease which lacks a well-defined treatment, as autopsy might potentially benefit a patient somewhere around the world.[34] Additionally, *Noda bi-Yehudah* addressed the issue of autopsy for the private individual, and did not intend to establish public policy. However, today, the halakhic approach to autopsy is a public policy issue for the State of Israel, which needs to consider both national concerns

[33] *Noda bi-Yehuda Yore De'a* 210.
[34] *Seridei Eish*, *siman* 22.

and a relationship with the international community. Similarly, the threshold risk for implementing HPV vaccine is not limited to a narrow definition of individual risk but must consider even smaller risks to safeguard the entire population.

3. Assuming the halakhically correct threshold risk for public health initiatives is 1 in 1000, discontinuing vaccination because the risk of HPV infection is less than 1 in 1000 could quickly create a public health crisis where the risk of infection exceeds 1 in 1000.
4. The obligation to prevent disease exists even if a minority of people is at risk. *Sanhedrin* 37a states that whoever saves one life is considered to have created an entire world. Halakha values the life of every individual. When asked about the permissibility of smoking in the *Beit Midrash* and exposing others to second-hand smoke, Rav Moshe Feinstein suggests that the obligation to prevent disease exists even if only one person is at risk,[35] based on Rambam's obligation in *Hilkhot Rotse'ah u-Shemirat ha-Nefesh* to build a parapet and eliminate danger even when just the homeowner is at risk. Even if the risk is only to one person, the obligation to prevent disease persists based on the positive commandment "*rak hishamer lekha u-shemor nafshekha*" (Deuteronomy 4:9) and the negative commandment "*ve-lo tasim damim"* (Deuteronomy 22:8). Thus, if halakha requires prevention of disease in even *one* individual, there is an obligation to vaccinate against HPV in Israel despite the low incidence of cervical cancer.

Is the Halakhic Obligation to Undergo HPV Vaccination Attenuated or Nullified by the Lack of Promiscuity Among Religious Jews?

Critics of the vaccine have argued that the HPV vaccine is recommended for the general population but not the Haredi or religious community, where the rates of cervical cancer and HPV infection are particularly low due to universal circumcision and low rates of promiscuity.

HPV Infection in the Absence of Promiscuity

As previously discussed, not all HPV is contracted through promiscuity. Among the reasons why Nishmat's Golda Koschitzky Women's Health Hotline and Machon Puah (an international organization which helps Jewish couples struggling with infertility) endorse the vaccine is the reality that HPV can be contracted by marrying someone with previous

[35] *Iggrot Mosheh*, II:76.

sexual experience, rape, or even maternal fetal transmission at birth.[36] In addition, there are reports from Africa of young girls contracting HPV prior to initiation of sexual activity, presumably through vaginal cleaning.[37] We have an obligation to prevent disease in these individuals.

Estimating Incidence of Cervical Cancer and HPV Infection Among the Religiously Observant

In response to claims that there is no promiscuity and consequently no cervical cancer among religiously observant Jews,[38] the author contacted the Israel Ministry of Health and Israel Cancer Association to determine the incidence of cervical cancer or HPV infection among observant Jews in Israel. Neither government body records data according to level of religious observance, so it is impossible to estimate the rates of cervical cancer or HPV infection in this population.[39] In the absence of such data, the author has searched for information regarding the prevalence of sexually transmitted diseases in the religious community as a surrogate measure for HPV infection in this population. There is limited data on this subject, as sexually transmitted disease clinics do not record religious affiliation. A single 1993 study reported incidence of chlamydia infection among 202 consecutive pregnant ultra-Orthodox women, who presented for delivery over a two-month period to Bikur Cholim and Shaarei Zedek hospitals based on chlamydia titres.[40] Six percent of ultra-Orthodox women were found to have active chlamydia infection and 12.3% prior infection, representing 18% of the ultra-Orthodox population giving birth at these hospitals. As the prevalence of HPV infection in Israel has increased in the last 25 years, it is unlikely that the rate of chlamydia

[36] Chotam. n.d. "Permitting the Administration of the Papilloma Vaccine for Students". Accessed November 10, 2018, accessible at https://www.chotam.org.il/על-סדר-היום/חברה/להתיר-מתן-חיסון-הפפילומה-לתלמידות; The Jeannie Schottenstein Center for Advanced Torah Study for Women, "HPV vaccine for religious teens." Nishmat's Women's Health and Halacha, Questions and Answers, May 26, 2014, accessible at http://www.yoatzot.org/questions-and-answers/answer.asp?id=2011.

[37] Catherine F. Houlihan, et al., "Prevalence of Human Papilloma Virus in Adolescent Girls Before Reported Sexual Debut." *The Journal of Infectious Diseases* 210:6 (September 2014), 837-45; Jennifer S. Smith, "Prevalence of Human Papillomavirus Infection in Adolescent Girls Before Reported Sexual Debut," *The Journal of Infectious Diseases* 210: 6 (April 2014), 835-6.

[38] Baruch Efrati, "We are Not in Sedom."

[39] Personal communication, Israel Ministry of Health and Israel Cancer Association, October 2017.

[40] Ofer P. Tadmor, et al., "Pregnancy Outcome in Serologically Indicated Active Chlamydia Trachomatis Infection." *Israel Journal of Medical Sciences* 29:5 (May 1993), 280-4.

infection among ultra-Orthodox women has decreased from the above study.[41] These religious women are at risk for HPV infection and subsequent HPV related cancers. Furthermore, given the presence of chlamydia infection in the most ultra-Orthodox neighborhood of Israel, it is impossible to define a religious population at zero risk of HPV infection, arguing for vaccination of all religious women until such data becomes available.

Quantifying Promiscuity in the Religious World

Additionally, there is, unfortunately, promiscuity in the religious world. There is a great deal of anecdotal information on the true prevalence of promiscuity in the religious world. The author has interviewed several professionals who work in the field and attest to many cases of potential HPV exposure from a variety of promiscuous behaviors in the religious community: husbands or wives having affairs or engaging in unprotected intercourse with male or female prostitutes, women raped or sexually abused, sibling incest, prostitution among religious girls or women, divorcees in sexual relationships, rabbis asking divorced women to have sexual relations with men who cannot have relations with their wives, singles having premarital sex – a growing phenomenon due to a rise in the average age of marriage in the religious world as well as the presence of gap-year students in Israel who have multiple casual sexual encounters. Collectively these cases represent a significant number of religious Jews at risk for HPV infection and subsequent HPV related cancers.[42] Although this data is purely anecdotal, Yaniv Efrati, founder and head of the Israeli Center for Healthy Sexuality, has gathered data on sexual behaviors of 1,042 high school teenagers in Israel, of whom half are religious and attend religious *yeshivot* and *ulpanot*. Among the religious boys, 9% reported engaging in full intercourse and 11% in oral sex. Among the religious girls, 1% reported engaging in full intercourse and 6% in oral sex. As HPV can be transmitted through oral sex and HPV-related oropharyngeal cancers are increasing in prevalence, religious teens engaging in oral sex are also at risk for HPV infection. This data confirm that

[41] Khalaf Kridin, et al., "Is there an Ethnic Variation in the Epidemiology of Gonorrhea? A Retrospective Population-Based Study from Northern Israel over 15 Years Between 2001 and 2015," *the BMJ*, June 22, 2017, accessible at http://bmjopen.bmj.com/content/7/6/e014265.

[42] Personal conversation with Debbie Gross Tahel in Jerusalem, Israel on February 15, 2018; personal communication with Dr. Dianna Fletcher, Director of Beshvilech, Women's Health Initiative in Jerusalem, Israel in October of 2017.

promiscuity exists in the religious community and that Orthodox Jews are at risk for HPV infection.[43]

Is there a Halakhic Obligation to Vaccinate a Sinner?

Rav Baruch Efrati, Rav Dov Lior, and Rav Shimon Shaya have suggested that the social and moral implications of HPV vaccination eliminate any possible halakhic obligation to vaccinate. They reason that HPV is a sexually transmitted disease contracted through promiscuous behavior and sin and there is no obligation to prevent disease in sinners. In fact, because they believe that HPV vaccination will encourage promiscuity and jeopardize the moral fiber of the religious community, they forbid vaccination.[44]

The Halakhic Obligation to Treat Sinners

Berakhot 10a distinguishes between evil actions and evildoers; evil should be banned but evildoers should be helped to repent. *Shabbat* 55a teaches that every human being is guilty of sin as there is no death without sin. If sinners do not deserve treatment, then no human being would ever receive medical care. *Sanhedrin* 73a explicitly states that every life is worth saving without distinction between sinner and righteous individuals. Thus, medical care is not limited to the virtuous, and the physician is obligated to care for the righteous and the sinner. Rambam *Hilkhot Rotse'ah u-Shemirat ha-Nefesh* 1:14 states that if the physician has the ability to save a life and fails to do so, he is guilty of "*Lo Ta'amod al- dam re'ekha*," the prohibition of standing idly by. The obligation to heal is independent of the patient's moral character and behavior.

Sources Which Question the Halakhic Obligation to Treat Sinners

Two Talmudic passages question the halakhic obligation to treat sinners. *Bava Kamma* 69a teaches that the obligation to mark produce growing in one's field exists only during the *shemitta* year so that passersby may

[43] Personal communication of unpublished data from Yaniv Efrati, Director Israel Center for Healthy Sexuality, The Interdisciplinary Center in Herziliya, on February 13, 2018.

[44] Baruch Efrati, "We are Not in Sedom,"; Hanan Greenwood, "Rav Lior: The Allowance of the HPV Inoculation is Extremely Severe and Unacceptable," *Kipa*, January 21, 2014, accessible at www.kipa.co.il/חיסון-הפפילומה-חמור-ביחדשות/הרב-ליאור-אישור-; Shimon Ben Shaya, "HPV Virus, Should We Inoculate Young Girls?," *Moreshet,* January 22, 2014, accessible at http://shut.moreshet.co.il/shut2.asp?id=165983.

partake of the produce. There is no obligation to mark one's field during other years. If a robber steals and takes *orla* or *neta revai,* fourth-year produce, so be it. "But during the other years of the *shemitta* cycle, '*hal'itehu la-rasha ve-yamut,*' Feed it to the wicked man and let him die."

Rashi (*Bava Kama* 69a) explains that if someone comes to steal *orla* or *neta revai* we let him eat what is forbidden, and then the wicked man will die. *Rambam Perush ha-Mishnayot, Ma'aser Sheni, ch. 5*, agrees that there is no obligation to mark one's field or intervene to prevent a potential thief from eating *orla* or *neta revai* and thus affirms the principle of letting the sinner die. Historically, the principle, "let the sinner die," has been invoked to argue against taking action to stop sin. In 15th century Spain, when Rabbi Isaac Arama was asked to open brothels staffed by unmarried young women to deter married men from committing adultery with married women, he refused, citing this principle to demonstrate he was not obligated to intervene.[45]

The second source which questions the obligation to treat sinners is *Avoda Zara* 26a, which concludes that there is no obligation to save a *mummar le-hakhis*, a provocative sinner who habitually sins, but that the *mummar le-te'avon*, defined by Rashi as someone who occasionally sins out of lust or appetite, should be protected and treated carefully.

Invoking these principles to argue against a halakhic obligation to undergo HPV vaccination is erroneous in the opinion of this author.

HPV Infection in the Absence of Promiscuity

First of all, not everyone who is infected with HPV actually engaged in licentious behavior. Women who vigilantly observe the laws of *niddah* can contract the virus from an unfaithful or *ba'al teshuvah* husband who was sexually active prior to marriage or becoming religiously observant. HPV can also be contracted through rape or sexual abuse or maternal-fetal transmission at birth. In addition, there are reports from Africa of young girls contracting HPV prior to initiation of sexual activity, presumably through vaginal cleaning.[46] In these and other scenarios, the infected individual did not choose to sin, HPV infection is not the result of the immoral behavior of the infected person and there is no justification for omitting treatment or preventing disease.[47]

[45] *Akeidat Yitshak*, Gate 20.
[46] Houlihan, Catherine F. "Prevalence of Human Papilloma Virus."
[47] Rambam, *Hilkhot Rotse'ah ve-Shemirat ha-Nefesh*, 1:14.

The Obligation to Save a *Mummar le-Te'avon*: Defining A Habitual Sinner

Avoda Zara 26b, previously cited, distinguishes between a provocative sinner or *mummar le-hakhis*, defined by Rashi as someone who habitually and willfully sins, and a lustful sinner (*mummar le-te'avon*). The *mummar le-hakhis* is not to be helped but hindered, while the *mummar le-te'avon* who occasionally sins out of lust or appetite must be cared for. Who in fact is the *mummar le-te'avon*? The *Shulhan Arukh* in *Hilkhot Hovel ba-Haveiro* 425:5 defines the *mummar le-te'avon* as someone who does not always engage in sin but sins out of desire, such as one who eats non-kosher food out of pleasure. *Shulhan Arukh* codifies the obligation to save such an individual, and failure to do so transgresses "*lo ta'amod al dam re'ekha*,"do not stand idly by your neighbor's blood." When asked if a *kohen* who desecrates Shabbat may recite *birkat kohanim*, Rav Moshe Feinstein in *Iggrot Mosheh,* O.H. I:33 distinguishes between a heretic, a *kofer* and a *mummar le-te'avon,* the lattert of which he defines as someone who works on Shabbat due to financial pressure or uncontrollable desires. He writes that just as we assume that the food of the m*ummar le-te'avon* is kosher because he eats *neveilot* to satisfy his desires, we treat the *kohen* who desecrates Shabbat due to financial pressure or irresistible greed with compassion and allow him to recite the priestly blessing. Similarly, a promiscuous individual sins because he cannot control his desires and thus qualifies as a *mummar le-te'avon* who deserves medical treatment.

In summary, that HPV infection is often the result of promiscuity and sin does not undermine the halakhic obligation to vaccinate as not all those infected engaged in sin, and those who did engage in sin are defined as *mummar le-te'avon* whom we are obligated to save. Failure to save the habitual sinner or deliberately withholding the HPV vaccine to punish him for his sins violates "*lo ta'amod al dam re'ekha*."

The Argument that Anything Which Promotes Promiscuity is Forbidden

Rav Baruch Efrati, Rav Dov Lior, and Rav Shimon Shaya argue that by administering the HPV vaccine in school, the Israel Ministry of Education legitimizes and even promotes promiscuity among religious youth.[48] Rav Efrati has argued that administering the HPV vaccine to eighth-graders is equivalent to distributing birth control to middle

[48] Baruch Efrati, "We are Not in Sedom,"; Hanan Greenwood, "Rav Lior: The Allowance of the HPV Inoculation"; Shimon Ben Shaya, "HPV Virus."

schoolers. Rav Shaya states that it is preferable to allow a few promiscuous individuals to contract HPV than to offer vaccination in religious schools and thus send a confusing educational message to thousands of students. He bases his argument on a detailed analysis of the previously described refusal of Rabbi Isaac Arama to permit the establishment of brothels staffed by unmarried young women to deter married men from committing adultery with married women.[49] The halakhic rationale behind the brothels was that violating a rabbinic *issur kal*, having sexual relations with an unmarried woman, is preferable to violating the more severe biblical decree against engaging in sexual relations with a married woman that carries the punishment of *karet*. Rav Shaya interprets the *Akeidat Yitshak*'s denunciation of this proposal as a categorical prohibition against any action which legitimizes or enables promiscuity, even if it will prevent violating a severe violation which carries the punishment of *karet* or leads to *pikku'ah nefesh*. To further bolster his position, Rav Shaya cites the Radbaz who explicitly forbids violating an *issur kal* to avoid violating an *issur hamur* based on the principle "*halitehu la-rasha ve-yamut*."[50]

Does HPV Vaccination Increase Promiscuity?

The argument that HPV vaccination encourages promiscuity and violation of prohibitions, effectively abrogating the halakhic obligation to vaccinate, has several flaws. First of all, as stated previously, not all HPV infection is due to sin. Can we sit idly by and allow a young woman who has not sinned but stringently adheres to the laws of *nidda* and monogamy in marriage to unknowingly be infected by her *ba'al teshuva* husband who once led a life of promiscuity but now embraces Torah when there is a vaccine that will prevent infection? Arguing that it is better to let a few sinners die than confuse the educational message to thousands of students by vaccinating does not justify withholding the vaccine from such a Torah-abiding woman who has not sinned. We have an obligation to protect such a woman from infection. Secondly, there is no need to explain to children who undergo vaccination that they are receiving a shot to prevent a sexually transmitted disease and that vaccination reduces the risks of promiscuity. A brief explanation that the vaccine prevents cancer in adulthood is sufficient. Discussions regarding promiscuity with children prior to vaccination will become unnecessary if the Israel Ministry of Health lowers the age of vaccination and combines HPV vaccine with other routine childhood vaccinations so that children will not be aware of

[49] *Akeidat Yitshak*, Gate 20.
[50] Responsa *Radbaz* 4:86.

the implications of HPV vaccination. If there must be an educational message when administering vaccinations, the message to students should be about the halakhic importance of preventing disease, intimacy within marriage, and strict adherence to the laws of niddah and forbidden sexual relations. Thirdly, suggesting that HPV vaccination is equivalent to opening a brothel is an exaggeration and a faulty analogy. At the very most, administration of the HPV vaccination acknowledges that promiscuity exists in the religious world. Vaccination does not actively encourage religious students to sin. Children who undergo vaccination are not being brought to prostitutes and openly told to behave promiscuously. Fourthly, data from the Center for Disease Control (CDC) show that HPV vaccination does not increase promiscuity, dispelling Rav Shimon Shaya's argument against vaccination.[51]

Even if one rejects the CDC data, and argues that vaccination of religious girls fosters promiscuity, *pikku'ah nefesh* may override concerns that an intervention potentially promotes promiscuity. Condom distribution and needle exchange for drug addicts to prevent AIDS are extreme examples of interventions which may foster *pikkuah nefesh* at the expense of potentially increasing public morality. Comparing condom distribution to HPV vaccination is inappropriate, as condom distribution, which prevents HIV infection, unwanted pregnancy, and all sexually transmitted diseases may have a far greater impact on destroying morality and increasing promiscuity than HPV vaccination, which only prevents one sexually transmitted disease. Nevertheless, the rabbinic response to the campaign for safe sex using condoms and needle exchange for drug addicts to prevent AIDS sheds light on how halakha perceives interventions that promote *pikkuah nefesh* while at the same time potentially undermining public morality. R. Lord Immauel Jakobovits and R. Prof. Avraham Steinberg reject any intervention that destroys public morality, such as condom distribution,[52] However, Rav Rene-Samuel Sirat, Chief Rabbi of France, supports condom distribution to prevent HIV infection because he elevates the preservation of human life above concerns regarding increasing promiscuity.[53]

[51] Nicole C. Liddon, et al., "Human Papillomavirus Vaccine and Sexual Behavior among Adolescent and Young Women," *American Journal of Preventive Medicine* 42:1 (January 2012), 44-52.

[52] Avraham Steinberg,, "AIDS: Jewish Perspectives," in *AIDS in Jewish Thought and Law*, edited by Gad Freudenthal, (Hoboken: KTAV Publishing House, 1998), 59-71; Immanuel Jakobovits, "Only a Moral Revolution Can Contain This Scourge," in *AIDS in Jewish Thought and Law*.

[53] Rene-Samuel Sirat, "Religious Leadership in Secular Society," *Haaretz*, Feb. 4, 1994, A-10.

Does Vaccination Aid and Abet Sin?

Rav Shaya suggests that, once vaccinated, fear of HPV will no longer deter girls from promiscuity, and, by eliminating this deterrent, HPV vaccination violates the prohibition against *siyu'a le-ovrei aveira*, aiding and abetting sin. Suggesting that HPV vaccination aids and abets sin is a gross exaggeration of the moral impact of vaccination. Fear of HPV infection is in fact a weak deterrent to promiscuity, as vaccination only reduces the risk of HPV infection and does not prevent pregnancy, HIV, or sexually transmitted diseases, which remain strong deterrents to promiscuity. Furthermore, HPV vaccination fails to meet Rav Moshe Feinstein's definition for aiding and abetting sin. When asked about the permissibility of preparing students for an activity on Shabbat which might lead to their driving to the activity on Shabbat, Rav Moshe Feinstein concludes that engaging the students is permitted and does not qualify as *siyu'a le-ovrei aveira* because preparation does not occur on Shabbat and there is no certainty that students will drive.[54] Similarly, HPV vaccination does not qualify as aiding and abetting sin, because even if vaccination increases promiscuity, there is no guarantee that vaccinated individuals will sin.

Implications for Schools that Offer the Vaccine

In response to the claim that vaccine administration will stigmatize and label schools and their students as morally deficient,[55] concerns regarding a school's image do not override *pikku'ah nefesh*. Additionally, if all schools administer the vaccine, no individual school would be singled out.

How do Contemporary Poskim View HPV Vaccination?

As previously noted, Rav Efrati, with the endorsement of Rav Yaakov Shapira and Rav Dov Lior, has argued that, given the low incidence of cervical cancer among Jews in Israel (roughly 200 cases diagnosed each year), the HPV vaccine should not be administered to the religiously observant.[56] Rav Efrati believes that a threshold risk of 1 in 1000 is required to justify medical intervention, and the risk of cervical cancer for all women in Israel is far below this threshold.

Rav Professor Steinberg endorses HPV vaccination in the religious community, but does not support a public health initiative to promote vaccination in the ultra-Orthodox community, which currently strongly

[54] *Iggrot Mosheh O.H.* IV:71.
[55] Baruch Efrati, "We are Not in Sedom"; Shimon Ben Shaya, "HPV Virus."
[56] Baruch Efrati, "We are Not in Sedom."

objects to vaccination. In a personal communication he wrote, "The data and the analysis you presented to me in your detailed email on March 9th 2018 are certainly sufficient enough objectively to advocate HPV vaccination to the religious community. That is because on the one hand there is some evidence of possible infection in significant enough numbers in this community, although it is not verified by acceptable studies; and on the other hand the vaccination is harmless and the end-point without it is clearly very serious.

However, having said all this it seems to me that from a social standpoint the charedi community will not accept it at this stage. Hence, it seems to me that it might be accepted by such communities only after highly validated studies will show the results you pointed out in your analysis."[57] Although the Haredi community as a whole may not be prepared to accept HPV vaccination, Rav Professor Steinberg however, commends individuals from these religious communities who privately chose to undergo HPV vaccination.[58]

Machon Puah issued a statement authored by Rav Yaakov Ariel strongly endorsing vaccination, because the benefits of the vaccine far outweigh the minimal side effects, early detection with PAP smears does not diagnose everyone at an early stage, and not everyone complies with PAP smear recommendations. In addition, they argue that although HPV vaccine may only save a small number of women, even a small number of women is important, and over 100 countries recommend vaccination. They suggest offering the vaccine in one of two time frames, either in eighth grade or in twelfth grade, closer to marriageable age.[59]

Nishmat, with the approval of Rav Yehuda Henkin,[60] unequivocally recommends HPV vaccination for all women with the possible modification of delaying vaccination in the Diaspora until age 17-18 prior to going off to college or Israel, recognizing that in Israel it may be simpler to vaccinate in school in eighth grade.[61]

[57] Personal communication with Rav Professor Avraham Steinberg in March of 2018.

[58] Avraham Steinberg, *ha-Refu'ah ke-Halakha,* vol. 3 1:2:82; Personal communication with Rav Professor Avraham Steinberg in October of 2017.

[59] Chotam. n.d. "Permitting the Administration."

[60] Personal Communication with Dr. Deena Zimmerman in March 2018.

[61] The Jeannie Schottenstein Center for Advanced Torah Study for Women. 2014, "HPV vaccine for religious teens". Nishmat's Women's Health and Halacha, Questions and Answers. May 26, 2014. http://www.yoatzot.org/questions-and-answers/answer.asp?id=2011.

CONCLUSION

There is a halakhic obligation to prevent disease. Halakha views vaccinations in general as obligatory, even overriding prohibitions against violating Shabbat. The overwhelming endorsement of HPV vaccine by the international medical community, communal responsibility to maximize herd immunity, and a favorable risk-benefit profile should create a halakhic requirement to vaccinate against HPV. The halakhic obligation to vaccinate against HPV is not attenuated by the existence of PAP smear, the low incidence of cervical cancer among Jews in general and in Israel and the perceived lack of promiscuity among religious Jews, as there is an obligation to prevent disease even in a minority of people, HPV infects those who are not promiscuous and promiscuity does in fact exist in the religious world. Similarly, concerns regarding the social and moral implications of preventing a sexually transmitted disease, such as the possibility that halakha does not obligate disease prevention among the promiscuous and that vaccination promotes promiscuity, are not valid and do not diminish the halakhic obligation to vaccinate. While some halakhic authorities prohibit HPV vaccine, a growing number permit it and even endorse it to prevent cervical cancer. With time, the already-documented benefits of HPV vaccine will translate into substantial reductions in the incidence of invasive cervical cancer and cervical cancer mortality. These findings will only strengthen the halakhic obligation to undergo HPV vaccine.