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Cities & Citizens Series

Urban Inequities Report:

Alexandria, Egypt

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Introduction

In today's world where one sixth of the global population lives in cities, the services these cities provide are of crucial importance. Cities should be capable of providing improved water and sanitation, durable housing, adequate living space and security of tenure to their residents. Unfortunately, not every city dweller has access to such services. Some are blessed with easy access to these amenities while others have to make do without them. A slum residence in an urban area is defined as one with inadequate housing, sanitation, tenure security, and no or few basic services (UN Habitat 2003).

This report analyzes and discusses various indicators of social well being for Alexandria. The report makes use of the Demographic and Health Survey data and discusses health indicators for Alexandria. The main focus of the report is to look at social conditions and the provision of services in the slums of Alexandria as compared to the better planned parts of the city.

Abstract

The purpose of this section is to investigate if awareness of major communicable diseases, incidence and treatment of childhood illnesses, access to immunization and maternal health care, child mortality, and child nutrition vary across slum and non-slum settlement of Alexandria. Descriptive analyses of these indicators show that women in the slums of Alexandria are less aware of HIV/AIDS, hepatitis, and TB, and ways to avoid or reduce the risk of contracting them. Access to treatment of childhood illnesses such as diarrhea and cough/fever are less accessible to children in slum areas. Children in these areas have limited access to essential vaccines. Child mortality is slightly higher in slums, but child malnutrition is less prevalent. Mothers in slums have limited access to maternal health care and assistance.

Awareness of disease

This section presents the levels of awareness of HIV/AIDS, Hepatitis, and TB in slum and non-slum parts of Alexandria.

HIV/AIDS

Information on knowledge of HIV/AIDS diseases is based on questions about whether respondents had heard of the illnesses. Those who knew about HIV/AIDS were asked additional questions about modes of prevention including whether it is possible to reduce the chance of getting the AIDS virus by having just one faithful sexual partner, using a condom at every sexual encounter, and abstaining from sex. To get at possible misconceptions, respondents were also asked whether they think it is possible for a healthy-looking person to have the AIDS virus and whether a person can get AIDS from mosquito bites or sharing food with a person who has AIDS. The responses to these questions are used to assess the extent to which DHS respondents have comprehensive knowledge of HIV/AIDS. Comprehensive knowledge of HIV/AIDS is defined as 1) knowing that both condom use and limiting sex to one uninfected partner are HIV prevention methods, 2) being aware that a healthy-looking person can have HIV, and 3) rejecting the two common misconceptions—that HIV/AIDS can be transmitted through mosquito bites and by sharing food.

Table A1: Awareness about HIV /AIDS: percent of women

	Ever heard of AIDS	Ways to avoid AIDS
Non-slum	96	53
Slum	83	35
Group Total	94	50

N=1031 of which 15 percent are slum dwellers

Table A1 shows that more than nine in ten women of age 15-49 in Alexandria have heard about HIV/AIDS, but this was less so among slum (83 percent) than non-slum (96 percent) women. Although many women have a basic knowledge of AIDS, the proportions of those who were aware of ways in which the risk of infection can be reduced were generally low (only 50 percent) and was lower for women living in urban slums (35 percent).

Table A2: Ways to avoid AIDS: percent of women

	Ways to avoid AIDS														
	abstain from sex	use condoms during sex	only one sex partner	avoid sex prostitutes	avoid sex homosexuals	avoid blood transfusions	avoid injections	avoid kissing	protection trad. healer	Limit number of sex partners	Avoid partners who have many partners	Avoid sex with intravenous drug users	avoid sharing razor blades with AIDS patient	Adhere to religious rules	D K
Non-slum	2	1	33	15	3	24	12	1	1	1	2	3	7	1	47
Slum	2	0	26	7	0	16	7	1	0	1	0	0	5	1	65
Group Total	2	1	32	14	2	23	11	1	0	1	2	2	7	1	50

N=1029 of which 15 percent are slum dwellers

Table A2 shows that women were more likely to agree on limiting sex to only one partner (32 percent) than on consistent use of condoms as a means of reducing the risk of transmission (1 percent), and this was more so among non-slum than slum women. Women also showed preference to avoiding sex prostitutes (14 percent), blood transfusions (23 percent), and injections (11 percent) as a way to avoid sex, but the likelihood of believing in these methods of avoiding AIDS was lower among slum women.

Table A3: Ways of reducing the risk of getting AIDS: percent of women

	Reduce risk of getting AIDS by not having sex at all		Reduce chances of AIDS by always using condoms during sex		Reduce chance of AIDS: have 1 sex partner with no other partner		Get AIDS from mosquito bites		Get AIDS by sharing food with person who has AIDS	
	%	N	%	N	%	N	%	N	%	N
Non-slum	48	867	41	876	75	880	17	879	15	877
Slum	38	151	23	149	49	151	31	151	22	150
Group Total	46	1018	38	1025	71	1031	19	1030	16	1027

In terms of reducing the risk of AIDS, respondents believed that not having sex at all (46 percent), using condom during sex (38 percent) and having sex with a partner who does not have other partners (71 percent) can reduce the risk of getting AIDS (See Table A3). But respondents in slum areas were less likely to believe in these ways of reducing the risk of getting AIDS.

More than 4 in ten women are unaware that a healthy-looking person can have AIDS, and women in slum areas are more likely to be unaware than their counterparts in non-slum areas. More than 8 in ten know that the AIDS virus cannot be transmitted through mosquito bites or through sharing food with an infected person, but the proportion is smaller among slum women (see table A4).

Table A4: Misconceptions and Stigma about AIDS: percent of women

	Get AIDS by sharing food with person who has AIDS		Can a healthy person have AIDS		Would buy vegetables from vendor with AIDS	
	%	N	%	N	%	N
Non-slum	15	877	60	878	12	816
Slum	22	150	28	151	4	121
Group Total	16	1027	56	1029	11	937

Women who had heard of AIDS were asked questions to assess the extent of stigma associated with HIV/AIDS. The result is given in Table A4; 11 percent have indicated that they would buy vegetables from vendor with AIDS, and this was less so in slum than in non-slum area. This shows that that there was a high level of stigma associated with HIV/AIDS.

Hepatitis

Infection with the hepatitis C virus (HCV) is a major public health problem in Egypt.¹ The 2005 EDHS included a number of questions to assess awareness of hepatitis C and modes of transmission among women (women aged 15-49).

The Table A5 below shows awareness of and ways hepatitis spreads among women in Alexandria by settlement type. The results show that about 9 in ten respondents were aware of hepatitis C, but awareness was much higher among non-slum (90 percent) than slum (66 percent) women. Contact with infected blood through blood transfusion was cited as the main route through which hepatitis spreads (56 percent), followed by contact with infected blood through unclean needle (38 percent), other contact with blood of infected person (13 percent), and casual physical contact (11 percent). Respondents in slum area were however less likely to agree on these routes of spread with their counterparts in non-slum area. About 2 in 10 did not even know how Hepatitis spreads.

¹ Hepatitis C is a viral infection of the liver.

Table A5: Awareness about hepatitis C and ways it spreads: percent of women

	Ever heard of hepatitis C	Ways hepatitis C spreads:										
		Heterosexual sex**	Homosexual sex**	Contact with infected blood through			Casual physical contact	Mother to child transmission	Mosquitos/insect bites	Smoking/cigarettes/shisa	Other	DK
				Blood transfusion	Unclean needle	other						
Non-slum	90	9	2	60	41	14	11	2	1	0	0	16
Slum	66	4	0	34	23	8	9	0	1	1	1	21
Group Total	87	8	1	56	38	13	11	2	1	0	0	17

*N=1031 of which 15 percent are slum dwellers. ** N=1025 of which 15 percent are slum dwellers

TB

Tuberculosis (TB) is considered to be among the top public health problems in Egypt. The 2005 EDHS obtained information from respondents (women aged 15-49) about whether they had heard about TB and, if so, how it was transmitted. Respondents who knew about TB were also asked if they believed it could be cured. To assess attitudes toward the illness, respondents were asked whether they would want to keep it secret if a family member had TB.

Table A6: Knowledge about TB and Ways TB spreads: percent of women

	Knows TB*	Can TB be cured**	Tuberculosis spreads through									
			air when coughing/sneezing	sharing utensils	Touching a person with TB	food	sexual contact	mosquito bites	contaminated blood transf/	Smoking cigarettes/shisha	Kissing, water pipe	DK
Non-slum	92	65	65	20	3	3	3	1	3	1	1	16
Slum	81	40	45	15	5	5	3	2	3	1	1	23
Total	90	61	62	19	3	3	3	1	3	1	1	17

*N=1031 of which 15 percent are slum dwellers. ** N=1027 of which 15 percent are slum dwellers

The Table A6 above shows more than 9 in 10 respondents had heard about TB. Knowledge of TB was lower in slum (81 percent) than non-slum (90 percent) residence. More than six in ten of those who had heard about TB said that it can be cured, but slum residents were less likely to believe so. More than six in ten correctly identified that TB can be spread through the air when an infected individual coughs or sneezes, but awareness about this cause was greater among non-slum (65 percent) than among slum (45) residents. About 20 percent women wrongly believe that TB can be contracted by sharing eating utensils with an infected person, but this was less so among slum women. About 2 in ten women were unable to name a way in which TB can be spread and this was more likely in slum areas.

Table A7: Social attitude on TB: percent of women

	Tuberculosis in family kept secret
Non-slum	53
Slum	47
Total	52

N=803 of which 13 percent are slum dwellers

Some degree of stigma is clearly attached to TB as evidenced by the fact that, if a family member had TB, in five out of ten cases it would be kept secret. Slum residence was associated with lower stigma in this respect than non-slum residence.

Correlations between selected indicators

Awareness about diseases is weaker in slums. As the correlation analysis below shows slum dwellers are associated with little knowledge about AIDS, hepatitis C and TB. Access to improved sanitation and availability of adequate living space in households (not overcrowding) are especially associated with higher knowledge about these diseases.

In addition, households that know about one disease are also more likely to know about the others. As a result we see positive correlation between awareness about the different diseases.

Table A27: Correlations between settlement indicators and awareness about communicable diseases

	slum	improved_ water	improved_ sanitation	structural_ quality	not_ overcrowded	Ever heard of AIDS	Ever heard of hepatitis C	Knows TB
slum	1	-.185(**)	-.913(**)	-.151(**)	-.528(**)	-.192(**)	-.248(**)	-.137(**)
improved_water	-.185(**)	1	.164(**)	-.005	-.017	-.019	-.030	-.025
improved_sanitation	-.913(**)	.164(**)	1	.024	.325(**)	.210(**)	.230(**)	.138(**)
structural_quality	-.151(**)	-.005	.024	1	-.014	-.016	.021	-.020
not_overcrowded	-.528(**)	-.017	.325(**)	-.014	1	.100(**)	.174(**)	.088(**)
Ever heard of AIDS	-.192(**)	-.019	.210(**)	-.016	.100(**)	1	.364(**)	.277(**)
Ever heard of hepatitis C	-.248(**)	-.030	.230(**)	.021	.174(**)	.364(**)	1	.281(**)
Knows TB	-.137(**)	-.025	.138(**)	-.020	.088(**)	.277(**)	.281(**)	1

** Correlation is significant at the 0.01 level (2-tailed).

Incidence and treatment of Diarrhea and respiratory diseases of under-five children

Diarrhea

This section describes the prevalence of diarrhea and respiratory diseases among children under the age of five during the two-week period before the survey, and ways and place of treatment by settlement type.

Table A8 shows the incidence of diarrhea. We see that 16 percent of children under five years of age were reported to have been ill with diarrhea during the two-week period before the survey. The incidence of diarrhea did not vary across settlement type. But the proportion of diarrhea-ill children during the interview time was higher among slum children (21 versus 16 percent).

Table A8: Incidence of diarrhea among under five children: percent of children

	Had diarrhea recently		Still have diarrhea	
	%	N	%	N
Non-slum	16	486	16	76
Slum	16	89	21	14
Group Total	16	575	17	90

As we also see in table A9, very few diarrhea-ill children were taken to health facility to receive treatment. This was true across slum and non-slum residences.

Table A9: Place Diarrhea treatment: percent of diarrhea-sick children

	Diarrhea treatment		
	Urban hospital	Urban health unit	Rural health unit
Non-slum	1	3	1
Slum	0	0	7
Total	1	2	2

N=90 of which 16 percent are slum dwellers

Table A10 shows that three in ten children had received no diarrhea treatment at all, and this was higher among slum (36 percent) than non-slum children (30 percent). The use of antibiotic pill/syrup as treatment for diarrhea was generally low and was even lower for non-slum children. Anti motility was used in 22 percent of the cases, and none of these were in slum area. Four in ten diarrhea-sick children were treated with other pill/syrup, and this was lower in slum areas.

Table 10: Type of diarrhea treatment: percentage of diarrhea-sick children

	Diarrhea treatment:						
	Antibiotic pill/syrup	Antimotility pill/syrup	Zinc pill/syrup	Other (not one of first 3) pill/syrup	Herbal medicines	Homemade SS solution	None
Non-slum	16	26	1	43	3	1	30
Slum	21	0	0	36	0	7	36
Total	17	22	1	42	2	2	31

N=90 of which 16 percent are slum dwellers

To prevent dehydration, the amount of liquids given to the child should be increased during the diarrhea episode. As Table A11 shows, the amount of fluids to sick children remained the same in about 4 in ten cases and the proportion was higher for slum than for non-slum children. Rarely children were given much less or no fluid to drink than normal. This was more likely among slum (14.3 percent) than non-slum (10.5 percent) children.

Table A11: Amount offered to eat and drink for children who were ill with diarrhea: percent of children

	Amount offered to drink					Total	Amount offered to eat					Total	
	Nothing to drink	Much less	Somewhat less	About the same	More		Stopped food	Never gave food	Much less	Somewhat less	About the same		More
Non-slum	2.6	7.9	32.9	39.5	17.1	100.0	9.2	9.2	9.2	39.5	31.6	1.3	100.0
Slum		14.3	14.3	57.1	14.3	100.0	14.3	14.3	21.4	21.4	28.6		100.0
Total	2.2	8.9	30.0	42.2	16.7	100.0	10.0	10.0	11.1	36.7	31.1	1.1	100.0

N=90 of which 16 percent are slum dwellers

Children with diarrhea should also receive adequate nutrients, and thus it is recommended that the solids given to a child be increased or at least stay the same during diarrhea episodes. In Table A11 we see that in more than three in ten cases the child was given about the same or more to eat, and this was less so in slum than in non-slum area. In about 4 in 10 cases the child was given somewhat less to eat, and this was more so in non-slum than in slum areas. In two out of ten cases of the diarrhea episodes, the mother either never gave food or gave the child much less than normal to eat, and this more likely in slum than non-slum residences.

Cough/fever

The prevalence of ARI was estimated by asking mothers of all children under five years of age whether children had been ill with a cough or fever, and if short or rapid breaths followed cough in the two weeks before the survey. Table A12 shows little over 2 in ten of all children under age five had had fever during the two-week period before the survey, and slum residence was associated with slightly greater incidence of fever than non-slum residence. Similarly, the prevalence of cough was only in 2 out of 10 cases, but it was greater in non-slum residence than slum residence. Five out of ten of the fever/cough cases were followed by short and rapid breaths, and this was higher among non-slum than slum children.

Table A12: Incidence of fever and cough in the two-weeks before the survey: percent of children

	Had fever in last two weeks*		Had cough in last two weeks*		Short, rapid breaths**	
	%	N	%	N	%	N
Non-slum	21	487	22	487	49	108
Slum	20	89	16	89	43	14
Total	21	576	21	576	48	122

N=576 of which 15 percent are slum dwellers. N=122 of which slum dwellers are 11 percent.

Of those children ill with cough/fever, less than 1 in 10 were taken to health facility to receive treatment, and all of them were non-slum residents.

Table A13: Type of health provider for fever/cough: percent of children

	Fever/cough source for treatment: Urban hospital	Fever/cough source for treatment: Urban health unit	Fever/cough source for treatment: Rural health unit
Non-slum	1	3	2
Slum	0	0	0
Total	1	2	2

N=166 of which slum dwellers are 14 percent.

Treatment for cough/fever included Antibiotic pills/syrup (38 percent), cough drug (42 percent), and other anti-pyretic (56 percent). Uses of these treatments were less likely in slum than in non-slum areas (table A13). One in ten cases reported that they did not use treatment at all. And both of these incidences were more likely in slum than non-slum residence. Antibiotic injection was used in less than three out of ten cases, and this was more so in slum than in non-slum area. One in ten cases reported that they did not use any treatment, and this was more so in slum than non-slum area.

Table A14: Type of treatment for fever/cough: percent of children

	Treatment									
	Antibiotic pill/syrup	Antibiotic injection	Aspirin	Ibuprofen	Other anti-pyretic	Cough drug	Other	None	Don't know	Had drugs in home when child became ill
Non-slum	38	1	1	1	58	45	5	8	1	2
Slum	35	13	0	0	48	26	0	17	0	0
Total	38	3	1	1	57	42	4	10	1	2

N=166 of which slum dwellers were 14 percent.

Access to health services for mothers and children under the age of five

Antenatal and prenatal care and coverage

Early and regular checkups by trained medical providers are very important in assessing the physical status of women during pregnancy. A birth is considered to have received regular care if the mother said she had made at least four antenatal care visits, i.e., visits to a trained medical provider for care for the pregnancy.

The results in Table A15 indicate that 82 percent of the births during the five-year period before the survey had received regular antenatal care from a medical provider, but births in slum area were less likely to receive antenatal care (70 percent) than births in non-slum areas (83 percent).

Table A15: Antenatal visits and Tetanus toxide coverage: percent of children

	four or more antenatal visits*	Number of tetanus toxide							
		before this birth				before this pregnancy			
		None	one dose	two doses or more	Total	None	one dose	two doses or more	Total
Non-slum	83.78	21.8	35.4	42.8	100.0	27.7	5.4	67.0	100.0
Slum	69.66	14.8	38.6	46.6	100.0	23.3	4.7	72.1	100.0
Total	81.58	20.7	35.9	43.4	100.0	27.0	5.2	67.8	100.0

*N=570 of which slum dwellers are 16 percent. **N=574 of which 15 percent are slum dwellers. *** N=267 of which 16 percent were slum dwellers.

Tetanus toxide injections were given to women during pregnancy to prevent deaths from neonatal tetanus. Table A15 shows that about 21 percent of mothers did not receive tetanus toxide vaccination injection before birth, while 36 percent received one dose, and 43 percent two or more. We also see that mothers in slum area were more likely to receive tetanus injection. The pattern for tetanus injection before this pregnancy follows more or less the same pattern although the response rate was only 47 percent.

Table A16: Place of service for antenatal care: percent of mothers

	Antenatal care												
	Urban hospital *	Urban health unit *	Health office *	Rural hospital	Rural health unit	MCH center	other public	pvt. hospital/clinic	private doctor	other private	Egyptian FP Assoc (NGO)	CSI project (NGO)	Other NGO
Non-slum	1	5	5	0	3	11	3	15	47	1	1	1	2
Slum	3	12	7	1	10	9	2	4	27	0	0	0	4
Total	1	6	5	0	4	11	3	13	44	1	1	1	3

N= 511 of which 14 percent are slum dwellers

In table A16 we see that the place of service for antenatal care for most was private doctor (44 percent), followed by private hospital/clinic (13 percent), and MCH health center (11 percent). The proportion of mothers who got antenatal services from private doctor and private hospital/clinic was higher in non-slum residences. Proportion of use of public health facilities for antenatal care was generally very low but was higher in slum than in non-slum residence.

Table A17: Person who provided prenatal or assistance service: percent of women

	Prenatal:			Assistance			
	doctor	nurse/midwife	no one	doctor	nurse/midwife	Traditional birth attendant	other resp (uncod)
Non-slum	91	7	9	90	56	6	1
Slum	78	12	22	77	44	14	5
Total	89	8	11	88	55	7	1

N=575 of which urban dwellers are 15 percent

The results in Table A17 indicate that 89 percent of mothers received prenatal care from a doctor while eight percent received from nurse/midwife. Prenatal care from a doctor was more likely among non-slum women while prenatal care from nurse/midwife was more likely among slum women. Eleven percent reported that they did not get any care at all from any one, and this was higher in slum residence. Mothers received assistance from a doctor in nine out of ten cases and from nurse/midwife in more than five out of ten cases, and in both cases slum residence was associated with lower assistance. Assistance from traditional birth attendants was generally low but more prevalent among slum residents.

Delivery care and place of delivery

Hygienic conditions and proper medical assistance at the time of delivery can reduce the risk of complications and infection for both the mother and the child. For all births in the five-year period before the survey, information was collected on where the delivery occurred, and whether delivery was assisted by trained medical personnel.

Table A14 shows that most deliveries occurred at private health facilities (43 percent in total), followed by public health facility (40 percent in total), and respondents and other home (15 %). The proportion of delivery at home or in public health facility was greater in slum areas whereas most deliveries in non-slum areas occurred in private health facilities.

Table A18: Place of delivery: percent of children

	Place of delivery														Total
	Public							Private							
	Respon dents home	Oth er ho me	Urba n hosp ital	Urb an hea lth unit	Hea lth offic e	Rur al hea lth unit	MC H cen ter	Other govern ment	hosp/c linic	doc tor	Oth er	Egypti an FP Associ ation	CSI proj ect	Oth er NG O	
Non- slum	11.1	1.6	17.9	.6	1.2	.2	1.4	18.3	35.8	8.0	1.4	.4	.2	1.6	10 0.0
Slum	22.5	2.2	21.3	1.1	1.1	1.1		22.5	18.0	10. 1					10 0.0
Total	12.9	1.7	18.4	.7	1.2	.3	1.2	19.0	33.0	8.3	1.2	.3	.2	1.4	10 0.0

N=575 of which 15 percent are slum dwellers

A caesarean section delivery might be advised and performed in certain situations, especially when a vaginal delivery would put the baby's or mother's life or health at risk; although in recent times it has been also performed upon request. In Table A19 we see that less than 4 in ten deliveries were by caesarean section, but caesarean section deliveries were more likely in non-slum areas (35 percent) than in slum areas (20 percent).

Table A19: Delivery by cesarean section: percent of children

	Delivery by caesarian section
Non-slum	35
Slum	20
Total	33

N=572 of which 16 percent are slum dwellers

Table A19 shows that most children (80 percent) had average weight at birth, and this did not vary much across settlement types. About 11 percent births were smaller than average, but this did not vary much across settlement types. Cases of very small size births were few at 3.5 percent and they were slightly more prevalent in slum than non-slum areas. Cases of larger than average and very large birth sizes were generally low, but there was no marked difference in their prevalence across settlement types. In general, the proportion of birth weights was not markedly different across settlement types.

Table A20: Birth sizes: percent of children

	Size of child at birth						Total	
	Very large	Larger than average	Average	Smaller than average	Very small	DK	%	Valid N
Non-slum	.2	6.0	79.4	10.7	3.3	.4	100.0	486
Slum		5.7	78.4	10.2	4.5	1.1	100.0	88
Total	.2	5.9	79.3	10.6	3.5	.5	100.0	574

Immunization of children

World Health Organization guidelines for childhood immunizations call for all children to receive BCG vaccination against tuberculosis; three doses of the DPT vaccine to prevent diphtheria, pertussis, and tetanus; three doses of polio vaccine; and a measles vaccination during the first year of life. Table A21 shows the proportions of children who were immunized with the specific vaccination at any age up to the time of the survey.

Table A21: Immunization rate: percent of children

	Received									Full immunization rate	Received		
	Measles	BCG	DPT 1	DPT 2	DPT 3	POLIO 0	POLIO 1	POLIO 2	POLIO 3		hepatitis 1	hepatitis 2	hepatitis 3
Non-slum	82	97	92	89	83	37	92	87	74	66.53	88	84	77
Slum	81	96	92	89	85	37	90	91	72	61.80	88	84	80
Total	82	96	92	89	83	37	92	87	73	65.80	88	84	77

The results in table A21 show that immunization coverage levels were 82 percent for measles, 96 percent for BCG, and between 83 and 92 percents for the three doses of the DPT, and between 73 and 92 percents for the three doses of polio vaccines. Overall, however, only 66 percent of children are considered immunized against all of these preventable diseases, i.e., they have received a BCG and measles vaccination and three doses of the DPT and polio vaccines. And this was more often in non-slum (66 percent) areas than in slum area (62 percent).

Table A22: Vitamin A: percent of children

	Ever received Vitamin A		Received Vitamin A		Vitamin A in last 6 months		Received Vitamin A dose in first 2 months after delivery	
	%	N	%	N	%	N	%	N
	Non-slum	33	484	53	485	8	484	40
Slum	13	88	25	89	1	88	22	89
Total	30	572	48	574	7	572	37	571

Regarding vitamin A, table A22 shows that at least 30 percent have received Vitamin A in the five-year period before the survey.

Child mortality

This section describes the levels of mortality among children under-five years of age and examines if it varied across settlement types. Table A24 shows under-five mortality for the five-year period before the survey was 31.29 deaths per 1,000 births. At this level, about 1 one in 30 children born in Alexandria would die before their fifth birthday. When distributed across slum and non-slum settlements, we see that the probability of dying before the age of five for children born in slums was 1.09 times as much as for children born in non-slum area.

Table A24: Infant and under five mortality rate among slum and non-slum dwellers

	Non-slum		Slum		Group Total	
	per 1000	N	per 1000	N	per 1000	N
Under five child mortality rate	30.80	487	33.71	89	31.29	577

Child nutrition

Nutritional status is a primary determinant of a child's health and well-being. Both inadequate or unbalanced diets and chronic illness are associated with poor nutritional status among children. The anthropometric measurements as well as information on the ages of the children in the 2004 DHS for Alexandria are used to construct the following three standard indices of physical growth: height-for-age, weight-for-height, and weight-for-age. As recommended by the World Health Organization (WHO), evaluation of nutritional status in this report is based on the comparison of these three indices for the population of children in the survey with those reported for a reference population of well-nourished children.

Table A25: Percentage of Children with Two Standard Deviations below the Median

		Below -2 SD from median height-for-age	Below -2 SD from median weight-for-height	Below -2 SD from median weight-for-age
Non-slum	male	21.33	2.71	4.39
	female	24.15	3.32	4.70
	Total	22.82	3.03	4.56
Slum	male	11.36	.00	2.22
	female	25.00	7.89	5.56
	Total	17.50	3.61	3.70
Table Total		21.97	3.11	4.41

N=577 of which 15 percent were from slum areas.

Table A25 shows the proportion of Children with two standard deviations below the median by settlement type and sex of the child. We see that there was considerable chronic malnutrition if we consider height-for-age (22 percent), but weight-for-height and weight-for-age appear to suggest that malnutrition was not a serious problem among children in Alexandria (3.11 and 4.41 percent respectively). The likelihood of being stunted (height below -2 SD from the standard population) is markedly larger among children in non-slum area than in non-slum area (23 against 18 percent). Wasting (below -2SD weight-for-height) was slightly higher in slum areas whereas underweight (-2SD weight-for-age below the standard population) was slightly lower in slum areas. Incidences of stunting, wasting, and underweight were higher for female children than for male children in both slum and non-slum areas.

Covariates and correlates of child malnutrition in Alexandria

Stunting is a good indicator for child malnutrition in Alexandria. The following exogenous explanatory variables were used in the model:

1. Individual characteristics: child sex, age, and birth order
2. Paternal characteristics: father's age at birth of child and father's level of education
3. Maternal characteristics: mother's age at birth of child, level of education, weight, height, and body mass
4. household wealth measured by wealth index computed using Principal components analysis
5. community characteristics: location (slum versus non-slum), poverty clusters, and ethnicity

Two separate models are estimated. Model 1 incorporates the wealth index while Model 2 is estimated without the wealth index.

In a similar manner to the La Paz results, older children have a significantly higher likelihood of being undernourished. Especially, children in the age group 36-47 months are particularly exposed when compared to children of 0-5 months.

The mother's education influences the child's nutrition. Surprisingly, in Alexandria children of mothers with secondary education were associated with a higher likelihood of being undernourished than children with mothers of no education.

Table A26: Covariates of malnutrition, Logit regression

	Model1	Model2
child is a girl	0.24 (1.10)	0.23 (1.03)
Child is twin	0.49 (0.91)	0.45 (0.83)
age 6-11 months	1.23* (2.38)	1.18* (2.34)
Age 12-23 months	1.16* (2.22)	1.14* (2.23)
Age 24-35 months	1.36** (3.08)	1.30** (3.07)
Age 36-47 months	1.52*** (3.44)	1.47*** (3.42)
Age 48-59 months	0.72 (1.49)	0.66 (1.41)
Birth order number	0.16 (1.16)	0.16 (1.15)
Female household head	-1.71 (-1.53)	-1.64 (-1.49)
Mothers age at the time of child's birth	-0.04 (-1.27)	-0.04 (-1.30)
Respondent's height (cms-1d)	0.00 (0.21)	0.00 (0.15)
mothers biomass	-0.03	-0.03

	(-1.19)	(-1.24)
mother has Elementary education	0.75	0.68
	(1.29)	(1.20)
mother has secondary education	0.97*	0.96*
	(1.97)	(1.98)
mother has Higher education	1.10	1.05
	(1.75)	(1.73)
Father has Elementary education	0.21	0.31
	(0.32)	(0.48)
Father has secondary education	0.36	0.39
	(0.57)	(0.64)
Father has Higher education	0.30	0.31
	(0.44)	(0.46)
Number of household members	-0.12	-0.11
	(-1.81)	(-1.51)
middle	0.97	
	(1.34)	
richer	0.47	
	(0.63)	
richest	0.38	
	(0.50)	
slum	0.10	0.17
	(0.21)	(0.45)
_cons	-2.81	-2.11
	(-0.71)	(-0.53)
Pseudo R-squared	0.08	0.08
Model chi-square	35.48	34.04
N	527.00	527.00

Robust t statistics in parentheses. without * Significant at 10%; ** significant at 5%; *** significant at 1%. model1= model with wealth and poverty cluster variables; model2=model without wealth and poverty cluster variables; Base group for age groups is “age 0-5 months”; Base wealth group is “poorest+poorer”; Base education category for both mother and father is ‘no education’.

There was no relationship between stunting and settlement type. But, the predictive power of the model is very low and very few variables are found to be significant. This may be related to small sample size. It looks like non-slum areas were over sampled or the concept of “slum” as defined by the UN-habitat does not fit the Egyptian setting very well. It is also possible that some of the variables of interest were poorly observed or measured. In any case the results of the above model should be interpreted with caution.

Summary of findings

The results of this report in terms of variation in health outcomes across slum and non-slum distinction is mixed and in many cases counterintuitive. One reason for this could be the fact that we do not have sufficient number of respondents from slum areas. The application of the UN-habitat definition on the DHS dataset for Alexandria resulted in very few households or respondents qualifying as slum dwellers. Of under-five children, for example, only 13 percent were considered as slum residents, and of the ever married women respondents only 9 percent were identified as slum residents. The distribution of

respondents into slum and non-slum was therefore very uneven. This casts doubt on the reliability of our analysis of comparison of health outcomes across slum and non-slum distinctions. Either the definition does a poor job in terms of describing the context in Alexandria, or the slum areas in Alexandria were not sufficiently covered or represented in the DHS survey. The following summary is based on conclusive results, but even these findings should be seen against the above back drop.

1. Awareness about HIV/AIDS was generally high among women in Alexandria, but slum residence was associated with lower awareness. Women in non-slum area were also more aware of ways to avoid aids and reducing the risk of getting AIDS. Social attitude on AIDS patients were more positive in non-slum than in slum areas.
2. Awareness about hepatitis and ways it spreads was higher among respondents in non-slum than in slum areas.
3. Awareness about TB and whether it can be cured was higher among non-slum respondents. Similarly, non-slum residence was associated with greater awareness about ways TB can be spread. Social attitude towards TB was however more open in slum areas as incidence of was more likely to be kept secret in non-slum than in slum family.
4. The incidence of diarrhea among under-five children was equally likely in slum and non-slum areas, but the incidence of diarrhea during the interview time was greater among slum children. The incidence of diarrhea treatment was generally low and even lower for slum children.
5. The incidence fever was higher among slum children, but both cough and cough followed by short and rapid breaths was higher among non-slum children. Medical treatment of fever/cough was also lower among slum children.
6. Slum residence was associated with smaller antenatal visits by pregnant women. Similarly, prenatal care and services by medically trained person were more accessible to non-slum than slum women.
7. Births in slum areas were more likely to happen at home or in public health facility than in private health facility, while the opposite was true for births in non-slum areas.
8. Children in slum areas had less access to essential vaccines than their counterparts in non-slum areas, and subsequently face higher mortality rates than their counterparts in non-slum areas. Paradoxically, child malnutrition was more prevalent in non-slum areas.
9. Access to vitamin A doses was considerably lower for slum children
10. Under-five age Child mortality was more prevalent in slums than in slum areas.