DETERMINANTI DI SALUTE E VALUTAZIONE DEGLI ESITI RIFERITI DAL PAZIENTE
STUDIO PILOTA - JOINT ACTION "SOCIAL INEQUALITIES IN HEALTH"

Dott.ssa Lucia Craxì

Dipartimento di Biomedicina, Neuroscienze e Diagnostica Avanzata

Università degli Studi di Palermo

IL NUOVO PILOT NELLA RETE PITER

EU4Health Joint Action on Cancer and other NCDs prevention

Aim: to **support strategies and policies designed to reduce the burden of C&NCDs, their common risk factors** both at a personal and societal level, and to define methods to assess their effectiveness across Europe.

Work Package 7 - Social Inequalities
Lead Beneficiary: **Istituto Superiore di Sanità**

Overall objective: ensure that the JA contributes to cancer and other NCDs **inequalities reduction** in Europe.

Task 7.5
Task leaders: Raffaella Bucciardini, ISS
Peter Csizmadia, Hungary
Zsofia Kimmel, Hungary

Plan and implement **specific pilot actions** which address determinants of health and/or exposure to risk factors (**health inequalities monitoring**, education/health literacy, fragile and vulnerable groups)

HEALTH EQUITY

> ***The absence of unfair and avoidable or remediable differences in health among population groups defined socially, economically, demographically or geographically.***
>
> ***– World Health Organization, 2008***

Health inequities are the differences in health outcomes and their risk factors between social groups that are **socially produced** and **systematic** in their distribution

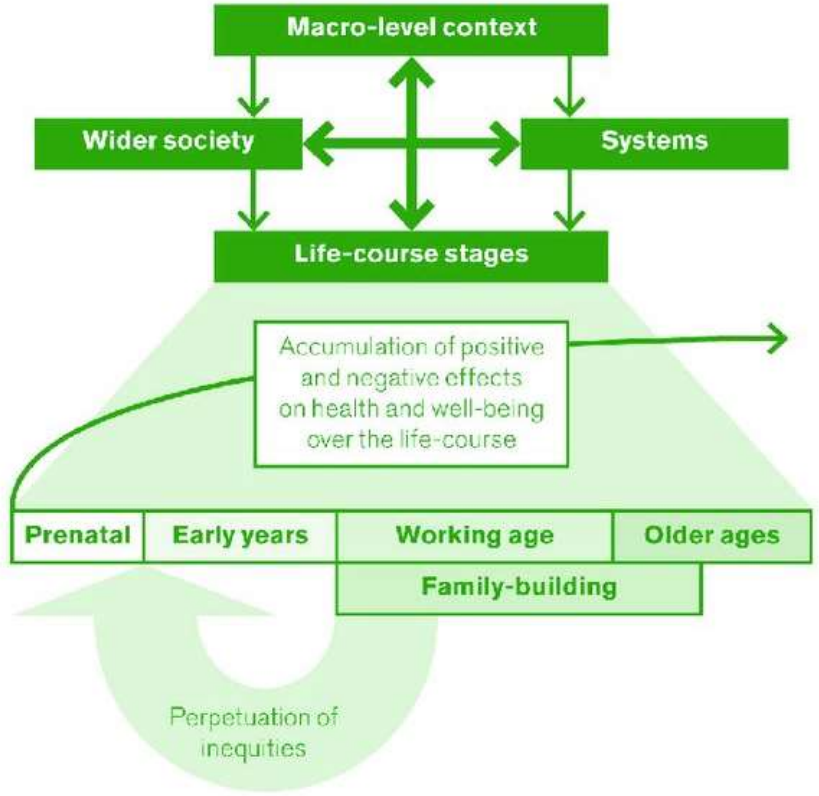
Health inequities are **avoidable** – they are created by structural and political processes and decisions that affect the everyday living conditions of individuals and populations.

SOCIAL DETERMINANTS OF HEALTH

Action on health inequities requires action across all the **social determinants of health (SDoHs)**: the range of interacting factors that shape health and well-being.

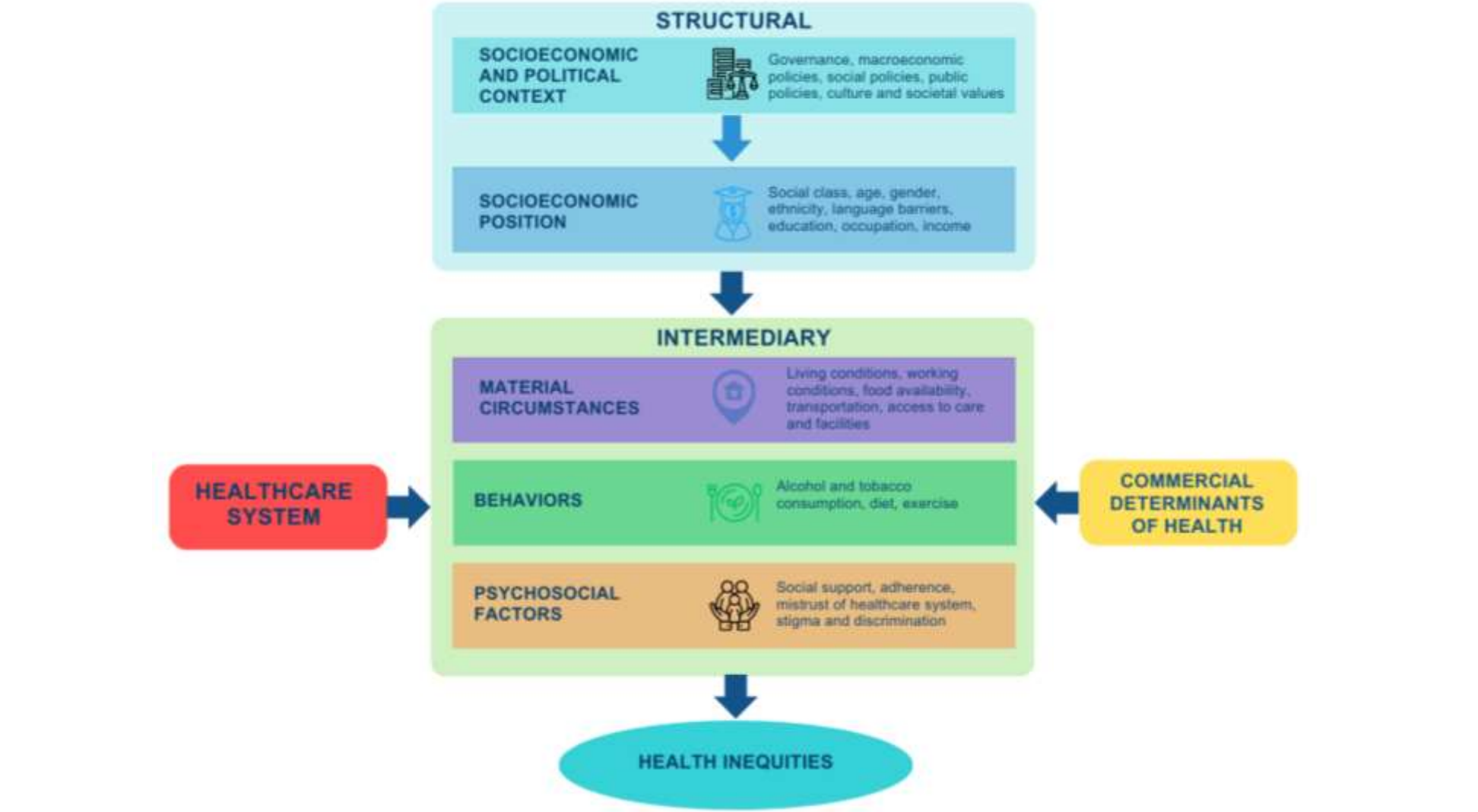
The SDoHs are conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life.

Marmot M, Friel S, Bell R, Houweling TA, Taylor S; Commission on Social Determinants of Health.Closing the gap in a generation: health equity through action on the social determinants of health. Lancet.2008;372(9650):1661-9



Jessica Allen, Reuben Balfour, Ruth Bell & Michael Marmot (2014) Social determinants of mental health, International Review of Psychiatry, 26:4, 392-407, DOI: 10.3109/09540261.2014.928270

STRUCTURAL AND INTERMEDIARY SDoHs



PATIENT REPORTED OUTCOMES

Patient-reported outcomes (PROs) are defined as any report of the status of a patient's health condition that comes directly from the patient

Li L, Yeo W. Value of quality of life analysis in liver cancer: A clinician's perspective. World J Hepatol. 2017 Jul 18;9(20):867-883. doi: 10.4254/wjh.v9.i20.867. PMID: 28804570; PMCID: PMC5534362

Despite the **significant impact of HCC** and its therapies on PROs, they are **rarely measured in routine clinical practice** to guide treatment decisions and symptom management or inform quality improvement efforts

Routine PRO collection allows systematic evaluation of where improvements are needed in patient experience, patient educational needs, and supportive care, informing navigation programs and the goals of clinical follow-up. Second, PROs may play a role in guiding decision-making regarding treatment selection and stopping rules. Finally, PROs can be used to define **treatment effectiveness for regulatory purposes**.

Serper M, et al. Patient-reported outcomes in HCC: A scoping review by the Practice Metrics Committeeof the American Association for the Study of Liver Diseases. Hepatology. 2022 Jul;76(1):251-274. doi:10.1002/hep.32313. Epub 2022 Jan 22. PMID: 34990516

IL PILOT STUDY

Title: **Prospective Evaluation of the Role of Social Determinants of Health in the liver cancer pathway in representative real-life multicenter cohorts in Italy**

Target population: patients with chronic liver disease of different etiologies

In a limited number of centers selected for geographic representativeness and relevance

Rational:

- Between 1990 and 2015 LC **incidence increased by 75% worldwide** and it is expected to grow dramatically by 55% over the next 20 years if prevention strategies are not promoted.
- **Studies from US show that SDoHs impact** 1) the prevention measures on etiological agents that lead to liver cirrhosis and subsequent liver cancer, 2) early prevention and 3) treatment in terms of access to proper medical and social resources
- **In Europe there there are few comprehensive and reliable data collections for patients with LC that enable a proper study of SDoHs.**
- **A limited number of studies have systematically analyzed the role of SDoHs as risk factors for the development and different clinical outcomes of LC in Europe.**

IL PILOT STUDY

StudyDuration/ [Reference] Author name Year	Country	Database evaluated	Sample size	Age (Years)	Findings
Differences in Liver Cancer Incidence					
1990–2015 [6] Vaccarella S 2023	Europe18 Countries:North: Norway, Sweden, Finland, Denmark, England/Wales; West/South: Belgium, France, Switzerland, Austria, Italy (Torino department), Spain; Baltic/Central/East: Estonia, Lithuania, Poland, Czech Republic, Hungary, and Slovenia	Country mortality data for total cancer and specific cancer sites	Not available (NA)	40–79	Increased relative risk for lower- vs higher educated observed for almost all cancer types in Europe. For smoking-related, e.g., lung [RR = 2.4 (95% CIs: 2.1–2.8), men; RR = 1.8 (1.5–2.1), women], infection-related cancers, liver [RR = 1.7 (1.5–2.0), men; RR = 1.6 (1.4–1.8), women].
1999-2009 [28] Konfortion J 2014	England	National Cancer Data Repository	40 945 LC patients	NA	The primary liver cancer incidence in men: 3.56 in the most deprived area versus 1.43 per 100 000 to the least deprived one
2008-2018 [32] Liao W 2023	England	QResearch database primary care cohort 1.255 general practices	8.52 million individuals /7331with LC	≥25	Age, sex, socioeconomic deprivation, ethnicity, and geographical region were significantly associated with LC incidence. Chinese, Bangladeshi, Pakistani, other Asians, and Black Africans more likely to be diagnosed with HCC (HR > 1) compared with white British.
2012-2018 [29] J Vaz 2022	Sedeo	National cancers'registry	3473 LC patients	Median 69 ± 10 years	HCC Incidence Rate: 3.90, 95% CI 3.28-4.64 in low-income households in the most deprived neighborhoods. 0.58, 95% CI 0.46-0.74 in a high household income in the least deprived neighborhoods.
2014-2017 [33] Curran C,2021	West of Scotland	Prospective regional HCC database	357 HCC prospectively evaluated	Median 68 ± 14 years	Incidence rate : 8.4 per 100,000 in most deprived patients 4.3 per 100,000 in the least deprived patients (p <0.0002).
Differences in liver cancer risk factor distribution					
2019-2022 [36] WHO 2023	EEA , Switzerland, England,	WHO Estimates By Administrative and Survey methods	NA	0-1	Declined coverage three doses HBV vaccine Austria (-1), Bulgaria (-2),Croatia (-3) Check Republic (-3) ,Estonia (-5), Germany (-1), Latvia (-4), Lithuania (-2), Netherlands (-4), Poland (-1), Romania (-5), Spain (-2), Sweden (-3) UK (-1).
2000-2014 [35] Khetsuriani N 2021	EEA countries	ECDC Estimates, European Statistical Dbases (Eurostat) National statistical Institutes, systematic literature research	NA Population: Migrants:	NA	Born in endemic countries HBsAg prevalence 6% anti HCV 2.3% Proportion of migrants in total population is 5% from HBV endemic countries and 8% from HCV endemic countries; accounted for an estimated 25% of the chronic HBV, and 14% of the chronic HCV cases
2020 ECDC (June 2022) [47]	EEA countries	"	NA Population Undocumented migrants	NA	Antiviral Treatment restrictions in 10 countries: Austria, Belgium Croatia, Poland, Denmark, Finland, Greece, Lithuania, Romania, Sweden
2020-2021 ECDC, December 2022 [34] ECDC, June 2022 [47]	EEA countries	"	NA Population Injecting drug use (PWID)	NA	Less than 50% of PWID had been tested for HCV in 13 countries with available data Treatment Restrictions to current injectors Croatia, Romania and Poland (also people with active alcohol dependence)

Journal Pre-proof

JOURNAL OF HEPATOLOGY

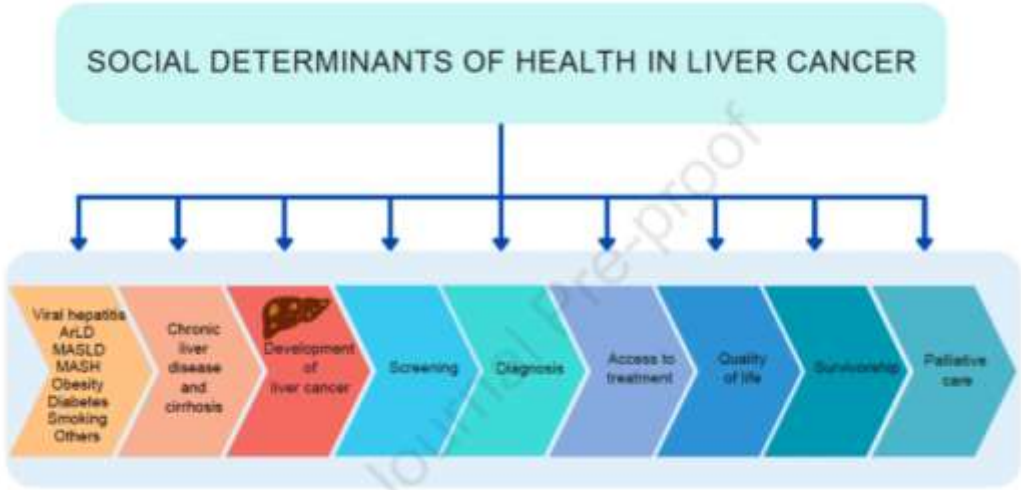
Inequities in primary liver cancer in Europe: The State of Play

Loreta A. Kondili, Jeffrey V. Lazarus, Peter Jepsen, Frank Murray, Jörn M. Schattenberg, Marko Korenjak, Lucia Craxi, Maria Buti

PII: S0168-8278(24)00039-4

DOI: https://doi.org/10.1016/j.jhep.2023.12.031

Reference: JHEPAT 9457



IL PILOT STUDY

Awareness, which is the necessary precondition for all other actions, indicates the need for screening for SDoH to identify social risk factors and assets for individuals and groups. The

role played by SDoH in liver cancer should be assessed in full detail, clarifying the different levels to which they belong (structural or intermediary), in order to assess the specific role of each factor and the possible interactions of different factors in liver cancer risk factor distribution, incidence, care and mortality. In particular, socio-economic position should be

IL PILOT STUDY

Objective: the pilot aims to **evaluate the role played SDoHs in HCC clinical outcomes and patient reported outcomes**, and to **suggest ethically sound strategies and actions to improve health equity** in the HCC pathway of care

Main outcomes:

1. Collect prospectively data on SDoHs for each enrolled patient with HCC.
2. Collect prospectively data on PROs for each enrolled patient with HCC.
3. Evaluate the correlation between SDoHs (environmental, behavioral, social and economic), clinical outcomes (time and stage of diagnosis, treatment, survival) and PROs among enrolled patients.
4. Create an ethically sound evaluation tool to systematically analyze health inequalities and to evaluate the types of intervention to be carried out in the light of available resources, prioritizing them.

IL PILOT STUDY

METHODOLOGY Prospective cohort study

Outcome 1: Collection of all relevant data on SDoHs will be made through the addition of **specific items** in the unified web-based patient registration system of the PITER centers participating to this pilot study. Data will be integrated with **newly calculated indices** such as the deprivation index.

New items to be included :

• Sex • Gender • Age • Address with postal code• Nationality • Education • Job status •Fiscal code (tax code)• Private means of transportation• Members of the household • Attitudes towards medicine scale •Tobacco use• Alcohol use• Diet and exercise• Other diseases not related to HCC • HBV vaccination

IL PILOT STUDY

METHODOLOGY

Outcome 2: . Patient Reported Outcomes will be measured with the validated FACT Hepatobiliary (FACT-Hep) questionnaire, and with NFHSI-18 National Comprehensive Cancer Network/Functional Assessment of Cancer Therapy Hepatobiliary Cancer Symptom Index - 18 Item.

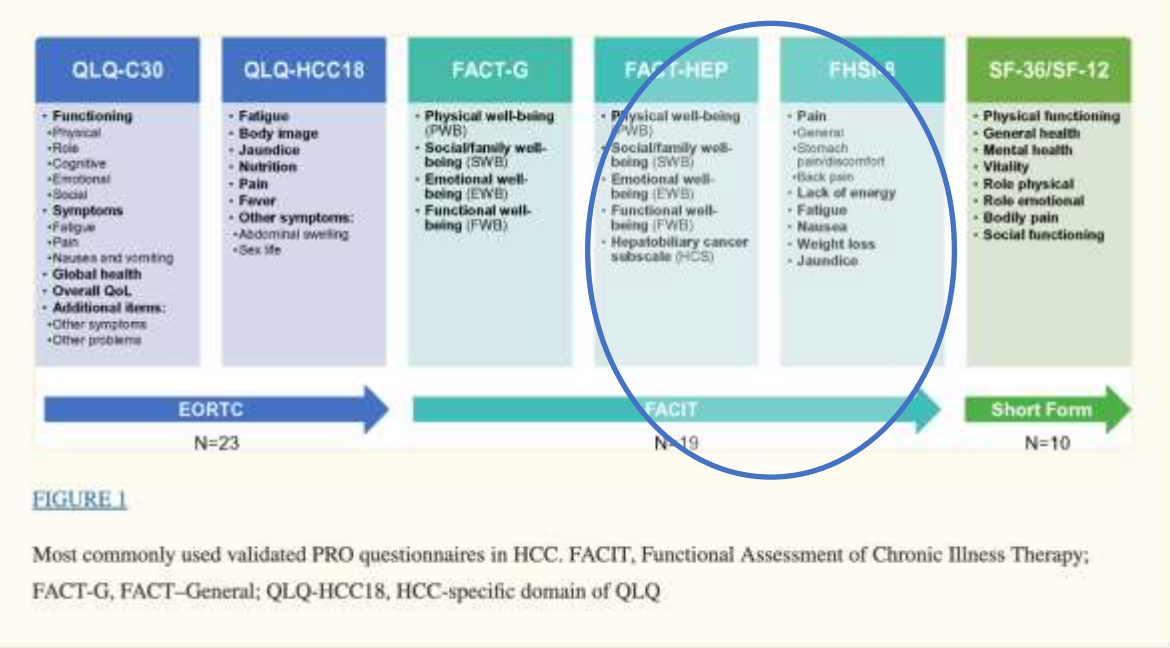
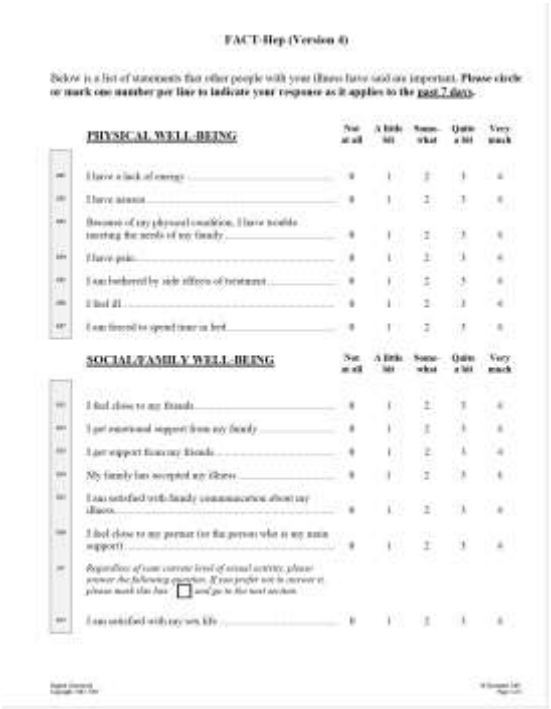
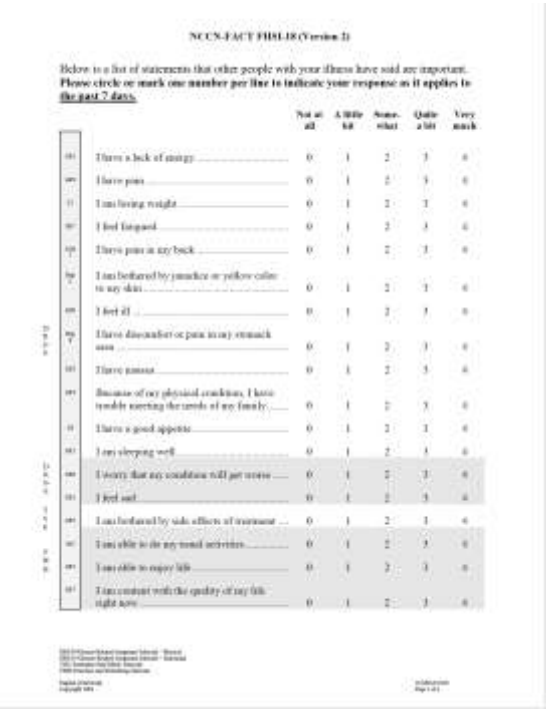


FIGURE 1

Most commonly used validated PRO questionnaires in HCC. FACIT, Functional Assessment of Chronic Illness Therapy; FACT-G, FACT–General; QLQ-HCC18, HCC-specific domain of QLQ





IL PILOT STUDY

METHODOLOGY

Outcome 3: To evaluate the correlation of the HCC outcomes with SDOHs, the clinical variables will be included in the statistical analysis. The analysis will be done taking into consideration the **synergistic action** and **intersectionality** of multiple SDoHs influencing health outcomes. The statistical analysis is related to the application of the main methods of survival analysis: Kaplan-Meier survival curves, Proportional hazard and/or time-dependent Cox models. In presence of non-liver related mortality causes, competing risk models will be fitted to model the cumulative incidence for HCC mortality (outcome of interest) and non-liver related mortality (the competing event) and to detect the impact of SDOHs as well as the clinical variables.

To measure HCC clinical outcomes, data will be collected through the items already present in the unified web-based patient registration system and through the addition of new specific items. We will consider as relevant HCC outcomes:1. Time and stage of diagnosis 2. Treatments 3. Survival.

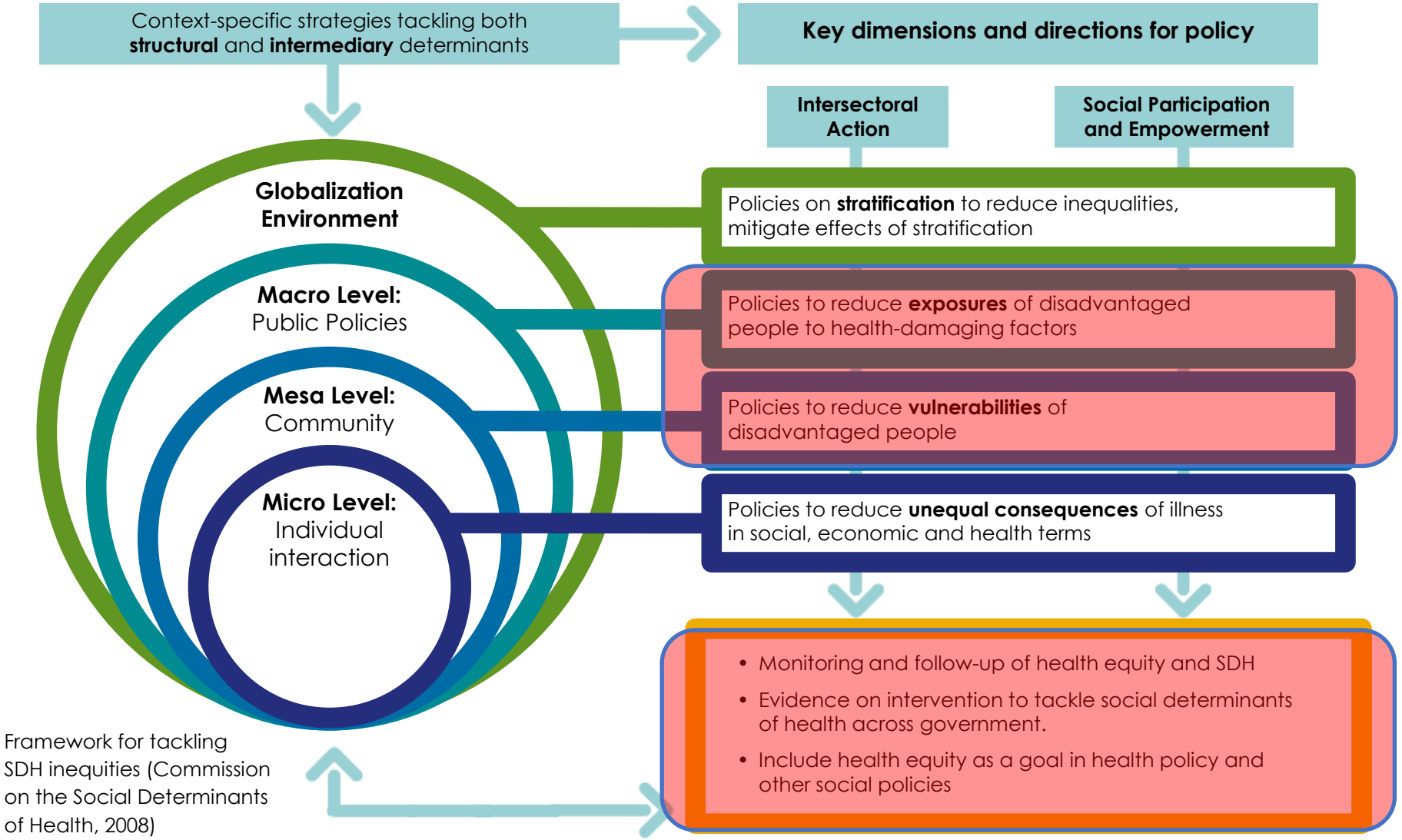
IL PILOT STUDY

METHODOLOGY

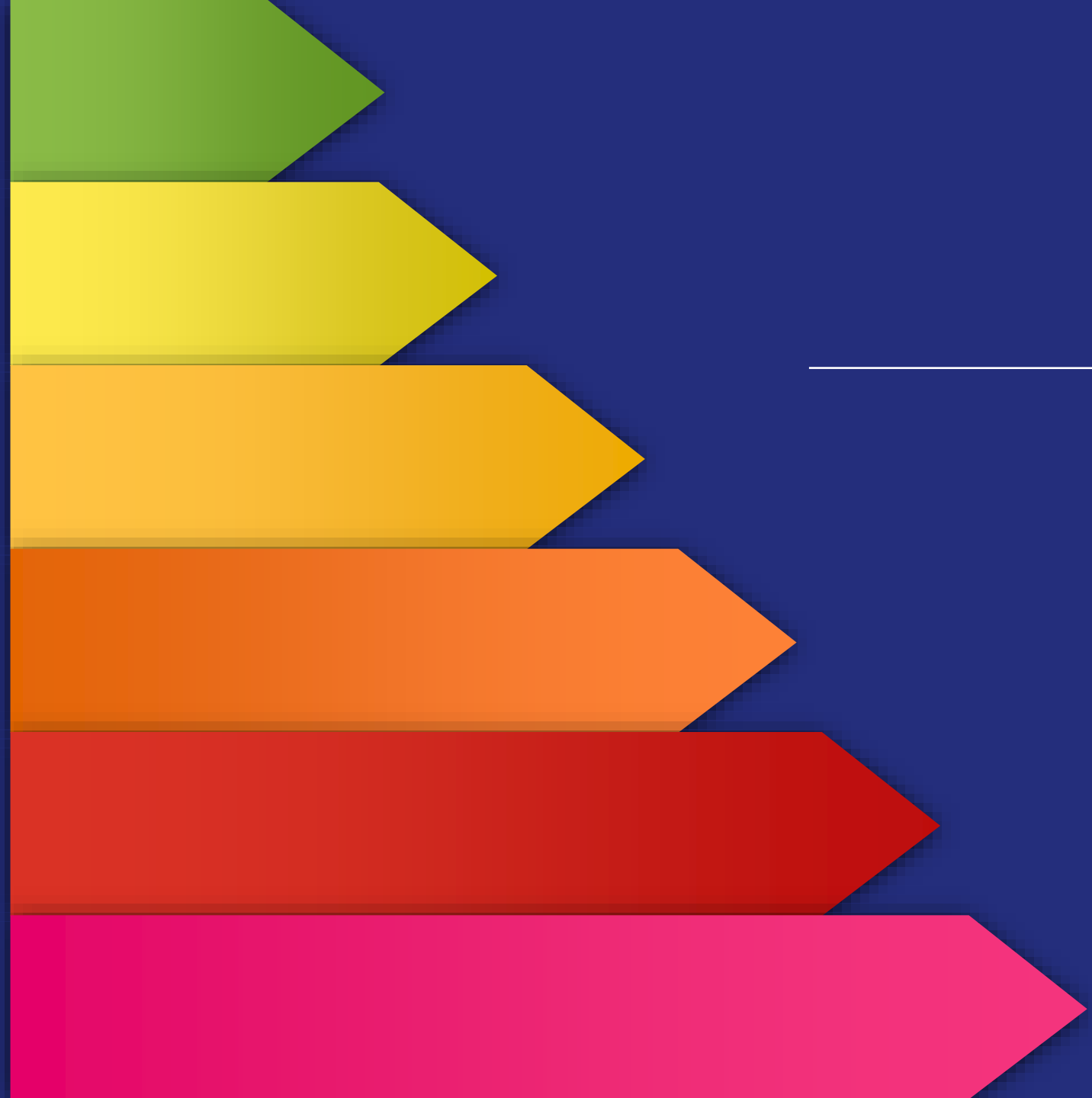
Outcome 4: Possible strategies and actions to improve health equity will be negotiated with a multidisciplinary approach via the **Estimate-Talk-Estimate (ETE) method**, or "mini-Delphi" consensus. We will first articulate the **core values** and related **main goals**. According to these values, we will lay out the **principles** guiding HCC access to care in Italy, and we will **rank** them to handle potential conflicts. This will allow to have a unique criterion with a proper balance between competing principles and to apply it in the formulation of new policies.

This new tool could guarantee more uniform choices and it could **help navigating choices and trade-offs in new issues arising in HCC access to care** and it could ultimately inform and justify future recommendations, implementing policies that are consistent and easily communicable.

IMPACT



Framework for tackling SDH inequities (Commission on the Social Determinants of Health, 2008)



Grazie