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TRANSMURAL HAEMATOLOGY

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CHARLEROI



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INTRODUCTION: NEW DRUG NEW MANAGEMENT

?

- Haematological pathologies are associated with heavy treatment and notably spending time at hospital
- new drug allow more ambulatory treatment, and sometimes at home administration.
- New oral treatment would be associated with sub-cutaneous or intravenous treatment.



HAEMATOLOGY FROM INSIDE TO OUTSIDE

- Till 10 years ago Haematology was a very inside hospital speciality ex:
 - Many treatment were completely administered at hospital
 - Ex acute leukemia
 - Autologous bone marrow transplantation
 - Allogeneous bone marrow transplantation
 - The vast majority of complications induced hospitalisations: ex febrile neutropenia
 - Transfusion very frequent
 - So the hematologist were used to managing their patients in intrahospital only



NEW DRUGS PROMOTE OUTSIDE HAEMATOLOGY

- Monoclonal antibodies subcutaneous
- Targeted therapies
- Chemotherapy subcutaneous
- Oral drugs

And improved survival and event free survival, off all the pathologies



TRANSMURAL HAEMATOLOGY NEW OPTIONS

What kind of care can we do outside the hospital ,

- Supportive care ex monitoring side effect adherence to treatment
- Treatment: chemo etc
- Palliative care

Transfusion



TRANSMURAL HAEMATOLOGY NEW OPTIONS: SOME EXAMPLES

- Monitoring side effect and quality of life at home
 - Monitoring side effect and therapeutic adhesion with oral drugs ex :
 - « Remecare » web-application with collaboration of external nurse
 - The system will send an alert if the level of side effect is too high to the nurse and then the nurse could send it to haematologist
- Promote education and adherence to treatment using:
 - Tools and technology: web-application, web-platforms
 - Nurse led follow up at home
- Administration of chemotherapy/immunotherapy/antibiotics at home



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GRAND HÔPITAL
de CHARLEROI



REMECARE AMTRA “STAY-ON-TRACK”

AMBULANT MONITORING OF CANCER THERAPY USING A SMARTPHONE APPLICATION

AP19 MOBILE HEALTH P16.52

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Standard Approach to Symptom Monitoring



PRESENTED AT: **ASCO ANNUAL MEETING '17** | **#ASCO17** Presented by: Ethan Basch, MD
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Alternative: Systematic Symptom Monitoring



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RESEARCH LETTER JULY 11, 2017
OVERALL SURVIVAL RESULTS OF A TRIAL ASSESSING
**PATIENT-REPORTED OUTCOMES FOR SYMPTOM (PRO'S) MONITORING DURING ROUTINE
CANCER TREATMENT**

[ETHAN BASCH, MD, MSc^{1,2}](#);
JAMA. 2017;318(2):197-198.

Une application pour allonger l'espérance de vie (vidéo)
Publié le 06/06/2017 par Jack35



En signalant en temps réel leurs symptômes, les malades pourraient vivre plus longtemps selon une récente étude.

Une application web par laquelle des malades atteints d'un cancer avancé peuvent en temps réel signaler leurs symptômes a produit des effets bénéfiques substantiels, dont une espérance de vie allongée, a révélé un essai clinique présenté dimanche.

Cette étude menée avec 766 patients, dont 86% de Blancs et d'une moyenne d'âge de 61 ans, tous diagnostiqués de différents cancers métastasés du poumon, du sein et de la prostate, montre que les utilisateurs de l'application disponible sur tablette ou smartphone pour communiquer les effets secondaires de la chimiothérapie à leur médecin ont vécu en moyenne cinq mois de plus que ceux du groupe témoin. Ces derniers attendaient leur visite mensuelle chez le cancérologue pour mentionner ces problèmes.

L'espérance de vie grappillée représente un gain de 20% (31 mois comparés à 26 mois) et ce avec une meilleure qualité de vie, a précisé le Dr Ethan Basch, professeur de médecine au centre du cancer Lineberger de l'Université de Caroline du Nord à Chapel Hill, principal auteur. Il en a présenté les résultats à la conférence de l'American Society of Clinical Oncology (ASCO), le plus grand colloque mondial sur le cancer avec plus de 30'000 participants réunis ce week-end à Chicago.

Une autre étude menée en 2011 et qui comptait 68% de femmes, est également

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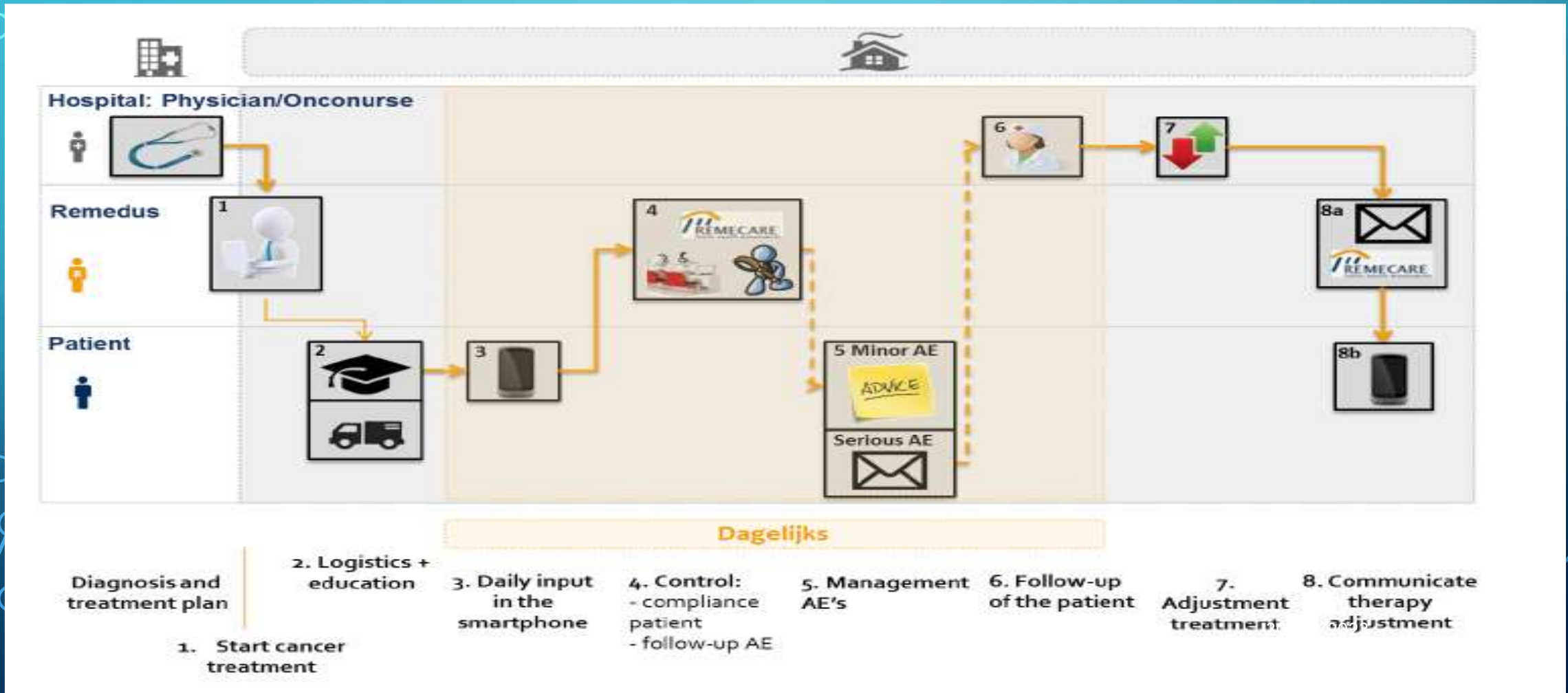
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Catégories

- Bateaux
- Festivals
- infos diverses et variées
- insolites
- interprétation des rêves
- L'image du jour
- Les lieux hantés
- Mars 500
- Proxima
- Vendée Globe 2012-2013
- Vendée Globe 2016-2017
- Vidéos

FLOW CHART PROTOCOLE AMTRA

Ambulant Monitoring of Cancer Therapy using a smartphone Application



Feedback Questionnaires

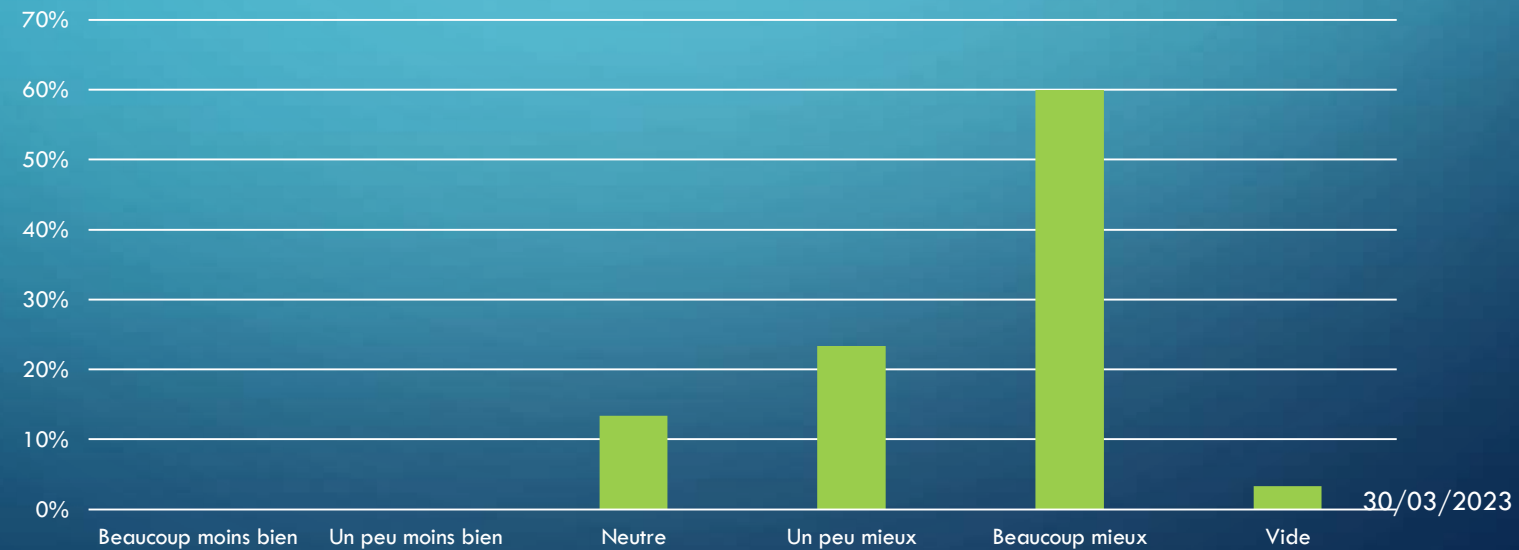
ESCHAP-O Point de vue patient

217 questionnaires reçus / 284 envoyés

« Recommanderiez-vous le service d'hospitalisation à domicile dont vous avez bénéficié? »

Réponse : 7% plutôt oui 93 % oui

« Sur le plan psychologique, cette prise en charge à domicile vous a permis de vous sentir »





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Hypothèses et constats

- Administration of treatment at home
- Would improve quality of life
- Would reduce fatigue in patients
- Allows more time for the caregiver to perform in-depth anamnesis
- Monitoring the evolution of the strategies put in place
- An extrahospital but multidisciplinary approach (intra and extra) centered on the patient
- Empowers the patient on their management
- Significant impact on the patient's environment



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FROM THE PATIENT POINT OF VIEW: IS IT SOMETHING INTERESTING ?

- Several studies among solid tumor and haematological cancer demonstrated the satisfaction of patient,
- This solution is even used in children and adolescents
- Some teams they give only post-hydration at home,
- or parents can give chemo at home



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WHICH DISEASE WILL BENEFIT THE MOST FROM THIS CHANGE?

- Multiple myeloma ?
- LNH/HK ?
- Chronic Myeloproliferative disease ?
- Acute leukemia,
- Myelodysplastic syndrome ?



CHANGING THE PARADIGM OF TREAT ACUTE LEUKEMIA

- Since 40 years the treatment of acute leukemia was the same , the treatment was either intense for young patients or palliative for others
- The management changes, from a pathology exclusively intrahospital to a semi-ambulatory pathology
- The schema using azacitidine evolve from monotherapy for very old patient to a bitherapy (triplet/quadrupelt in a few years) for more young people .
- From inside hospital for 3-4 months (induction and consolidation) to 4 months outside (ven-aza) an than allograft even for old patient to a continuous ambulatory at home chemo(ven-aza) .

AT HOME CHEMOTHERAPY : ACUTE LEUKEMIA A GOOD EXAMPLE ?

Time spent at home among older adults with acute myeloid leukemia receiving azacitidine- or venetoclax-based regimens

- Among AML less than 40% of older adults (aged ≥ 60 years) survived 1 year from the time of diagnosis.
- Study: 2015-2020 USA
 - 113 patient
 - Median age in 73 ans

Disease and treatment				
First-line treatment, N (%)				
Azacitidine	44 (38.9)	44 (100)	---	---
Azacitidine + venetoclax	58 (51.3)	---	58 (100)	---
Venetoclax + other medication	11 (9.7)	---	---	---
ELN 2017 risk, N (%)				
Favorable	9 (8.1)	3 (7.1)	6 (10.3)	0.50
Intermediate	34 (30.6)	13 (31.0)	19 (32.8)	0.75
Adverse	68 (61.3)	26 (61.9)	33 (56.9)	(reference)

AML: acute myeloid leukemia; AZA: azacitidine; VEN: venetoclax; ELN: European LeukemiaNet. Missing data not available in records: race (n=1 subject), employment status (n=17), marital status (n=3), rurality (n=2), household income (n=3), ELN risk (n=2). *Comparison between categorical variables assessed via the χ^2 test. Statistically significant result shown in bold.

Haematologica | 108 - April 2023

Time spent at home among older adults with acute myeloid leukemia receiving azacitidine- or venetoclax-based regimens

Christopher E. Jensen,^{1,2} Hilary M. Heiling,^{2,3} Konan E. Beke,¹ Allison M. Deal,³ Ashley L. Bryant,^{3,4} Lorinda A. Coombs,^{3,4} Matthew C. Foster^{1,3} and Daniel R. Richardson^{1,3}

AML QUALITY OF LIFE

ARTICLE - Time at home among older adults with AML

Many patient desire to stay the majority of time at home

AML induced spent a lot of time et hospiatl

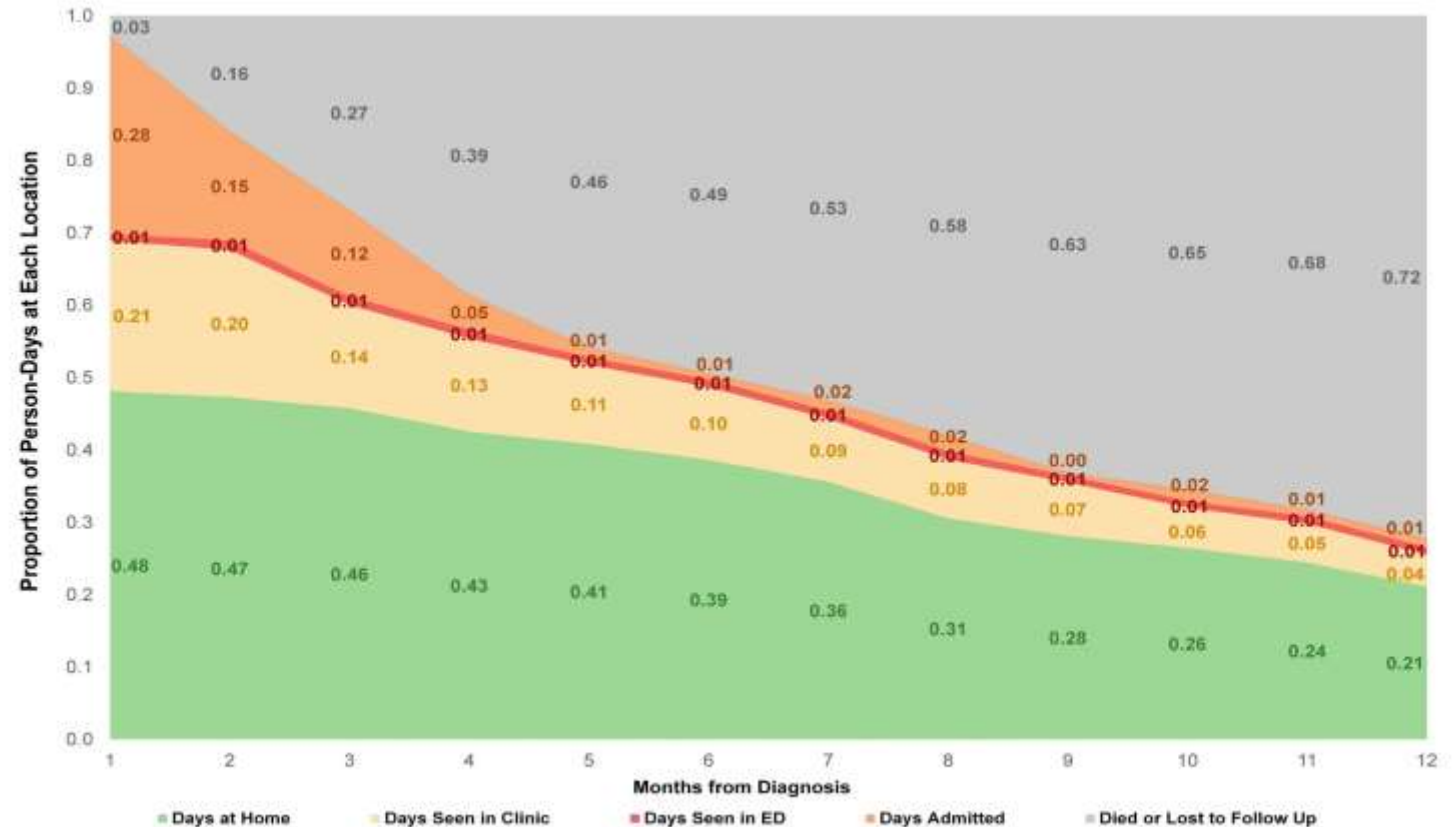


Figure 2. Proportion of person-days spent at home and engaged in cancer care among older adults with acute myeloid leukemia including decedents and those lost to follow-up. This figure displays the same data as in Figure 1, with the addition of individuals

AML AT HOME

Ven-aza versus AZA ?

No difference !

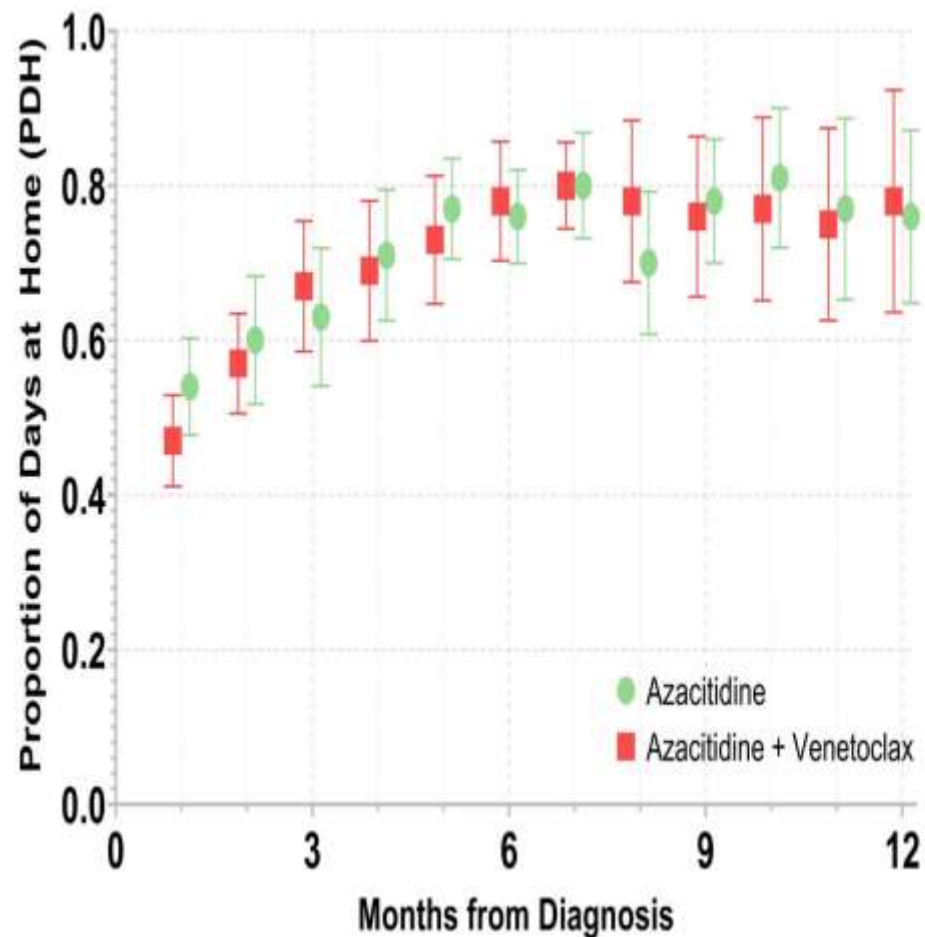


Figure 3. Proportion of person-days spent at home among older adults with acute myeloid leukemia treated with azacitidine with or without venetoclax in the year following diagnosis. Among survivors in each group, the proportion of days spent at home (and not engaged in oncologic care) rose over time, with generally similar proportions observed in each treatment group at each time point. Adjacent values for the two treatment groups are contemporaneous and have been offset for legibility. Error bars reflect 95% confidence intervals.



AML THE GOOD EXAMPLE

Heavy treatment

Often poor pronostic

Palliative teams are often absent from the acute leukemia care journey. The more frequent return to home could facilitate the integration of front-line nurses and then the earlier intervention of palliative care focusing on quality of life at home.

One of the resulting problem is transfusion, at home we could propose to establish with the patient and the nurse team a patient blood managment program (threshold specific for each patient) based on quality of life at home, more than based on very often blood sample.



AT HOME CHEMOTHERAPY

- Conditions
 - Patient consent
 - Fit patient or very well supported by family
 - First cycle at hospital
 - All patients are reviewed prior to or during each cycle of treatment, prior to drug administration
 - Complete information to the patient was given about side effects and toxicities, local site reaction, risk of anaphylaxis and allergy and co-morbidities.
 - During these processes, the oncologist would be notified and the patient would be referred back to them for additional support, in other words, a clinic appointment with the oncologist
 - Well trained nurse in haemato-oncology
 - General practitioner doctor agreement's



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AT HOME CHEMOTHERAPY: MANY OPTIONS

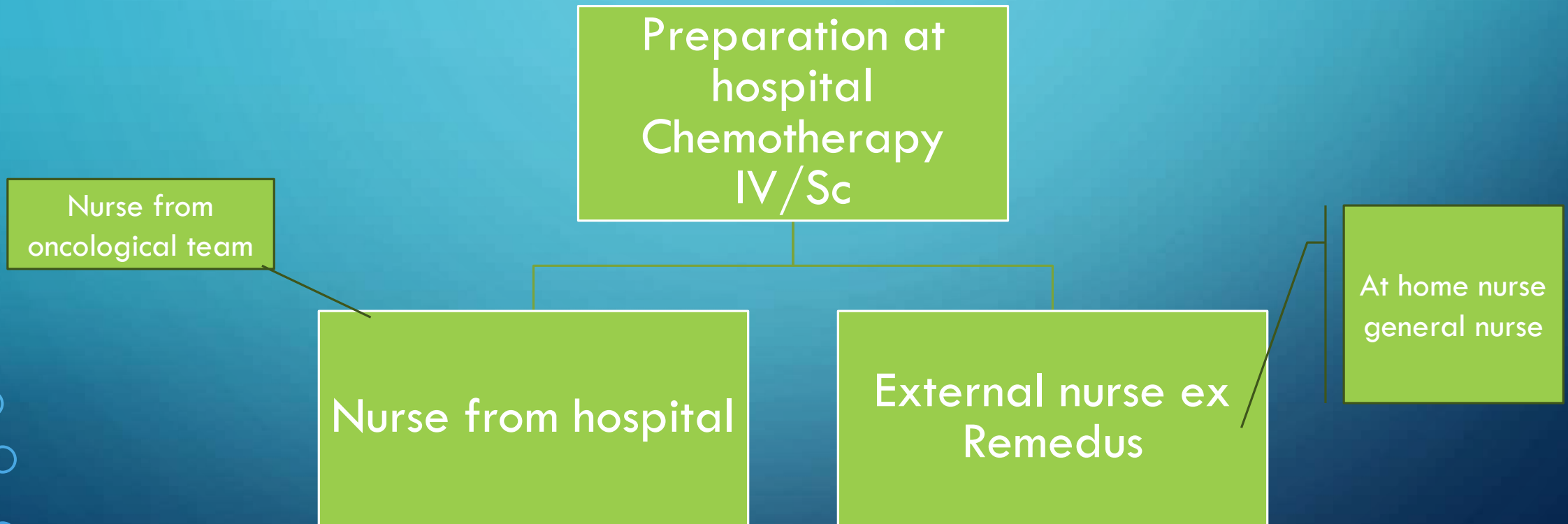
- Oral chemotherapy
 - Delivered by hospital
 - Delivered by office pharmacy
- Intravenous ou subcutaneous chemotherapy
 - Delivered by hospital's pharmacy

At home chemotherapy



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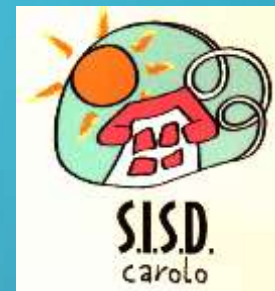




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AT HOME CHEMOTHERAPY/IMMUNOTHERAPY THE GHDC EXPERIENCE



ESCHAP-O EQUIPE DE SOINS ET DE CONFORT À L'HÔPITAL ET AU DOMICILE OU EN MRS DU PATIENT ONCOLOGIQUE



« L'HOSPITALISATION DANS LE LIEU DE VIE HABITUEL »



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Lancé officieusement en 2016 et officiellement depuis 2018 via les projets pilotes



GHD EXPERIENCE: IN PRACTICE

1. The team and logistic system:

We build a team of two nurses from the oncology-haematology nurse team of the GHDC, well trained and experienced.

- One car for the transport
- A electronic system for the prescription of the chemotherapy
- Good collaboration with the pharmacist for transport, delivrance etc
- Schedulle all day week-end included



GHD EXPERIENCE: IN PRACTICE TREATMENT

- Treatment S/C (Monoclonal antibodies, chemotherapy,)
 - **Herceptine®**;
 - **Vidaza® sc-Cytosar® sc** ;
 - **Velcade® sc**
- Treatment IV 30' **Perjeta®**
 - **Topotecan® ; Alimta®, Gemcitabine (GEMZAR®) J8, Vinorelbine (Navelbine®) J8**
 - **Nivolumab (OPDIVO®) , Pembrolizumab (KEYTRUDA®) , Durvalumab (IMFINZI®) , Atezolizumab (TECENTRIQ®) APRES 6 MOIS en HDJ**
- Laser <mucite
- blood sample **Palbociclib (IBRANCE®)**
- For blood sample for transfusion the lab go at home so the RAI and the result come the day before transfusion (acceleration of the command of blood Products)
- Oral treatment: **Afinitor®**; **Sutent®-Stivarga®-Nexavar®**

GHD EXPERIENCE: IN PRACTICE TREATMENT



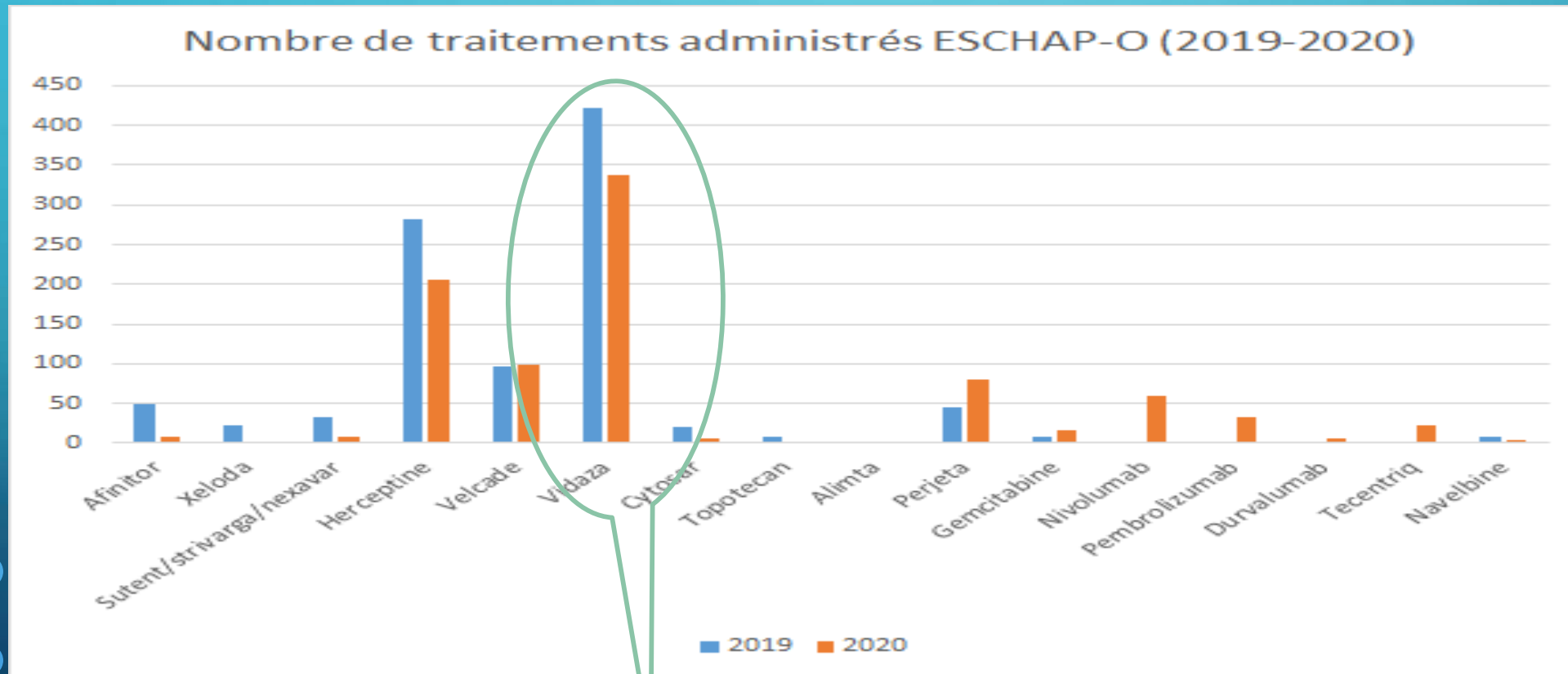
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Exemple acute leukemia on Ven-aza :

- Day 1 blood sample at home (lab from GHDC)
- Day 2 haematologist look the results:
 - Command 2 red blood cell pack and one of platelets
- Day 3 patient at hospital in day care + consultation with the doctors
 - Transfusion already prepared
 - Consultation evaluation qol results etc
 - Prescription of the next cycle
 - Send a mail to the at home team nurses
- Day 4 or 5-6 Nurse take the chemo and go to the home of the patient
 - The patient had already the setron at home (from the precedent cycle)
 - The nurse do the examination (TA/ RC /Sat /Temperature) and nursing anamnesis
- All the treatment is delivered by the nurses , vencylxto, setron, and growth factors, but growth factors are in general administered by the first line nurse of the patient

GHD experience: in practice

ESCHAP-O



Acute leukemia and
MDS

Activités 2018-2021



- 45 patients suivis en moyenne / mois (500/an) (2016-2021)
- 10000 passages depuis 2016 (patient ambulatoire-sortie précoce-patient fragile)
- Nombre de passages pour les traitements réalisés à domicile depuis 2018 selon la voie d'administration

	2018	2019	2020	2021
-PO	50	105	22	7
-SC	1188	820	769	661
-IV (dont ¾ immuno en 2020-2021)	78	150	463	460
-Laser et PO autres que PP	112	542	231	216
-N° de passage à domicile	1428	1617	1485	1344
-N° de P « ambulatoires »			544	507

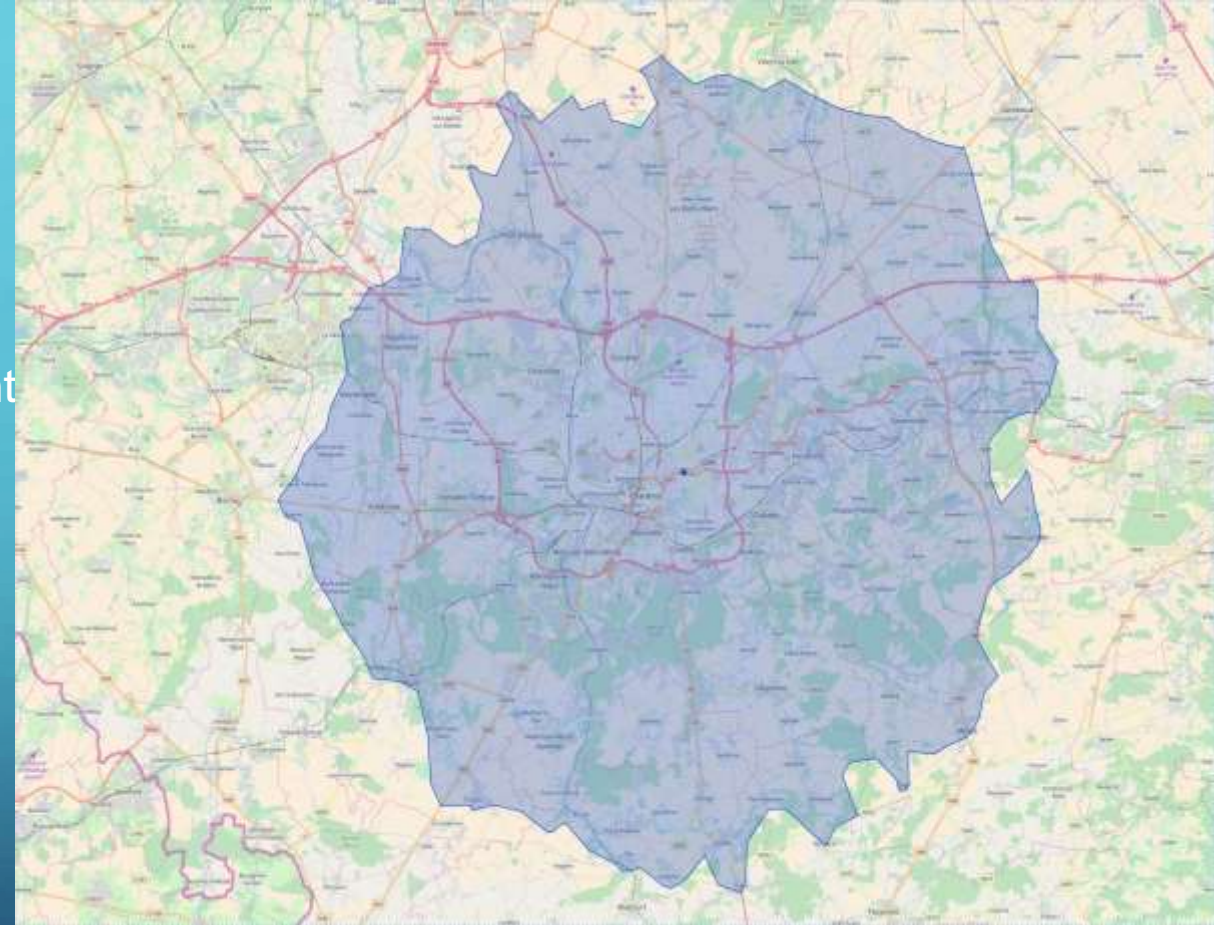
- Nombre de passages pour les traitements d'Herceptine et Herceptine + Perjeta

	2018	2019	2020	2021
Herceptine	378	282	130	62
Herceptine + Perjeta	0	45	104	112
-N° de passage à domicile	378 (26%)	327(20%)	234(15%)	174(13%)

CLINICAL FEATURES AND/OR SOCIO-ADMINISTRATIVE



- Resident within 20 km of the hospital (Notre Dame site) (= 85% of GCH patients)
- Patient with estimated survival time > 3 months
- Agreement of attending physician, SRM management
- Patient agreement (written informed consent)
- Passage and information of the social worker
- Contact by the social service of a coordination centre (the most frequent) or SISD for setting up a multidisciplinary meeting at home
- Patient SRM multidisciplinary meeting and outing
- SISD/GHDC Training





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TRANSMURAL HAEMATOLOGY AT GHDC

- 7 years of experience
- Patients are satisfied
- After a logistik adjustment time for each doctor a method of work that permit the patient to be more at home and therefore less dependent on the doctor
- In the management of acute myeloid leukemia this requires initially a lot of adjustment in terms of anticipation of side effects NF, transfusion that usually are taken in charge at the hospital . Anticipate blood orders, very often reorder the patient in consultation (instead of being in a hospital bed)
- It moves patient monitoring to the day hospital and consultation , from assistant to old haematologist !
- It allows more contact with the generalist and the patient