ICLIO National Conference

Future Educational Needs with Expanding Immunological Agents

Edward Li, PharmD, MPH, BCOP

Associate Professor

University of New England College of Pharmacy

9.30.16

Philadelphia, Pa.

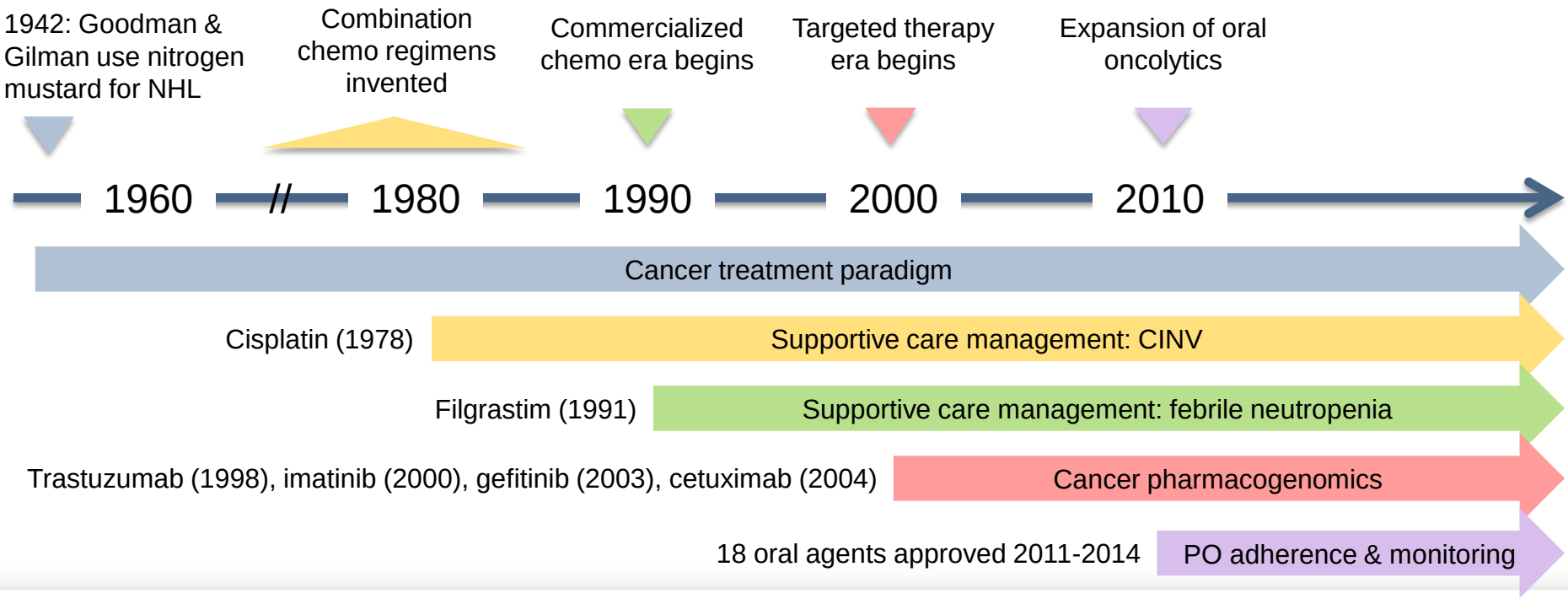
ICLIO INSTITUTE FOR CLINICAL IMMUNO-ONCOLOGY

AN INSTITUTE OF ACCC Association of Community Cancer Centers

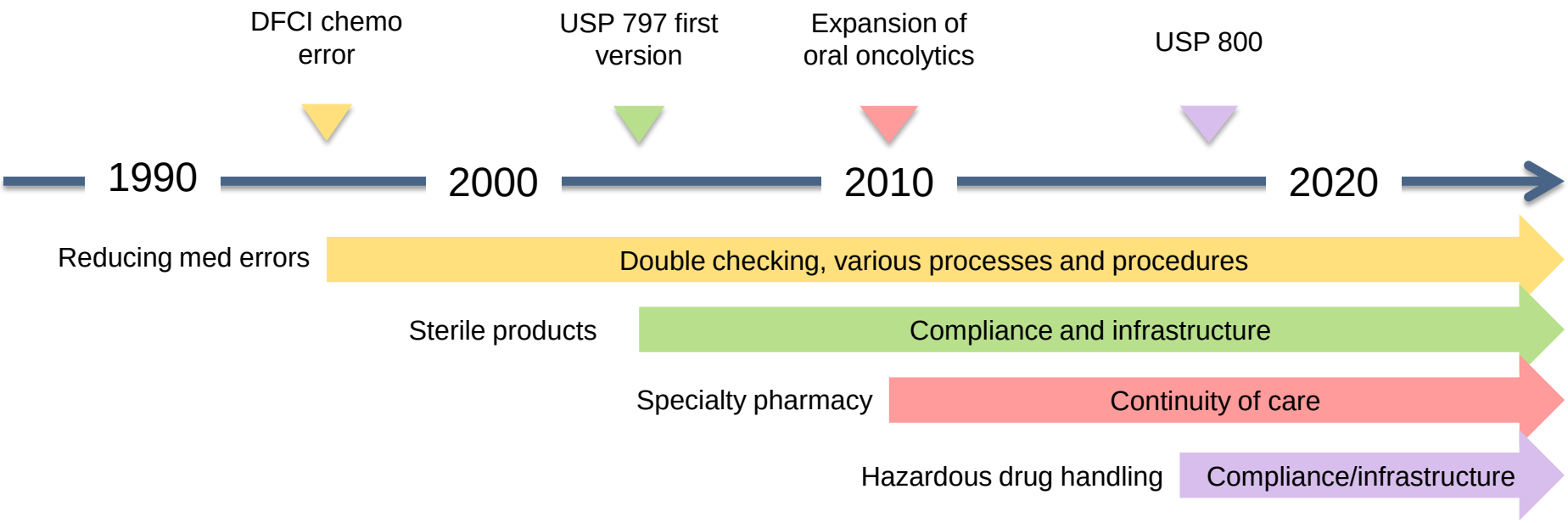
accc-iclio.org

Describe the evolution of educational needs in oncology what educational needs are required for current and future immuno-oncology agents

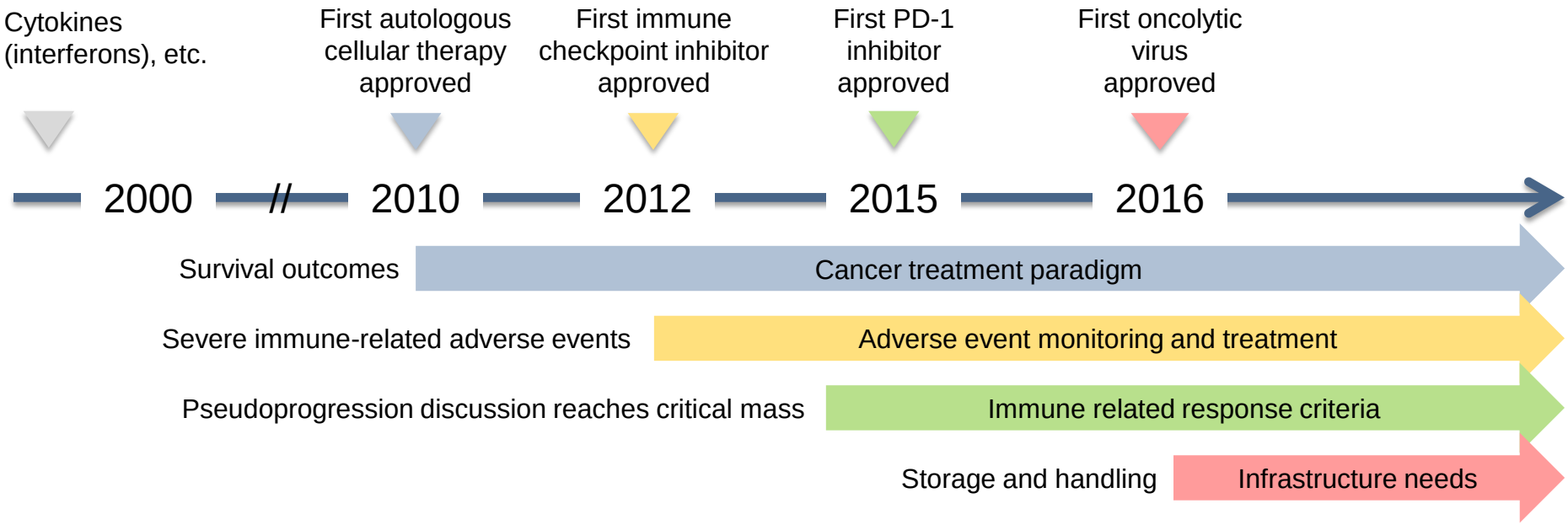
Evolution of Clinical Education



Evolution of Administrative Issues

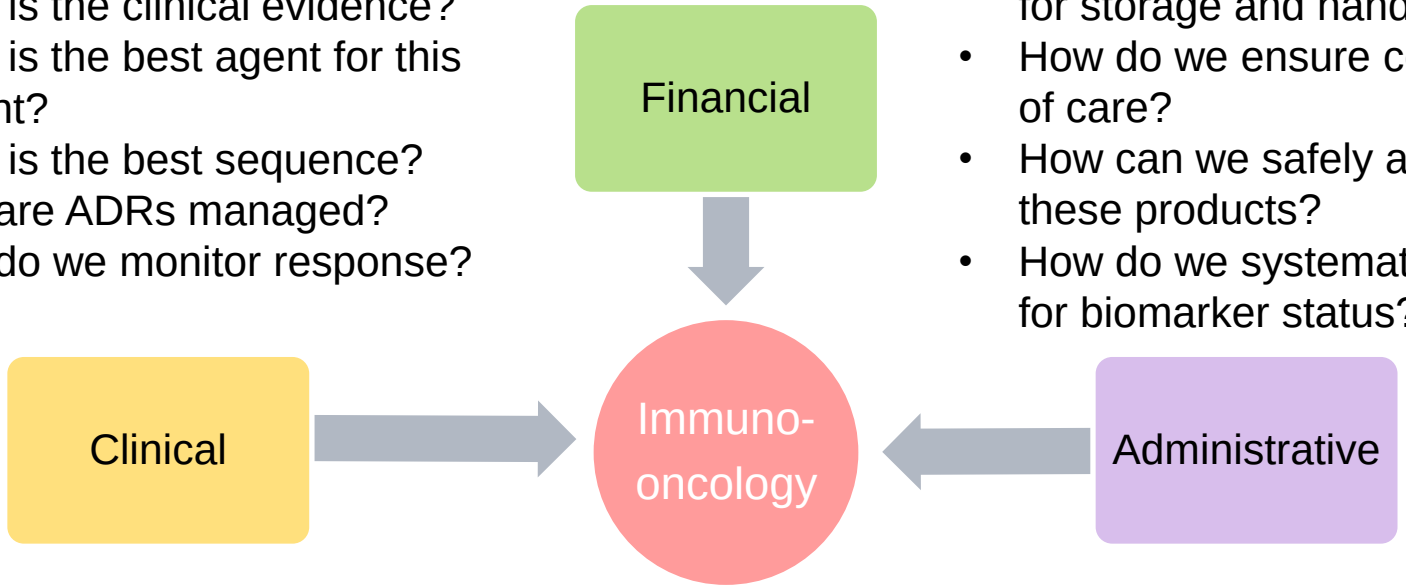


Immuno-Oncology Educational Needs



Integration of Educational Needs

- What is the clinical evidence?
- What is the best agent for this patient?
- What is the best sequence?
- How are ADRs managed?
- How do we monitor response?



- What infrastructure is needed for storage and handling?
- How do we ensure continuity of care?
- How can we safely administer these products?
- How do we systematically test for biomarker status?

Current Example

- Blinatumomab – Bispecific CD19-directed CD3 T-cell engager indicated for the treatment of Ph(-) relapsed or refractory B-cell precursor ALL
- Cytokine Release Syndrome – Black Box Warning
- “Hospitalization recommended” for days 1-9 ays of cycle 1 and days 1-2 of cycle 2
- Clinical education regarding cytokine release syndrome impact, recognition, monitoring, and treatment
- Administrative education regarding logistics: type of hospital bed, staffing, administration, continuity of care post-discharge, billing, etc.

Blinatumomab prescribing information, 2016

Future Example: CAR T cells

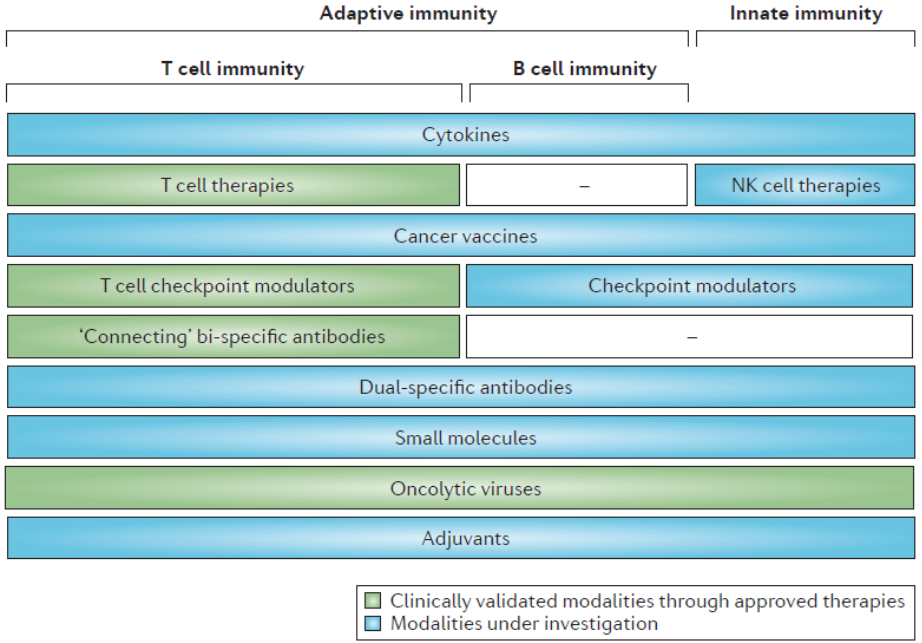
- Chimeric antigen receptor-transduced T-cells
- Toxicities
  - Cytokine release syndrome
  - Insertional oncogenesis
  - Neurological
  - On-target, off-tumor
  - Anaphylaxis/allergy
- “Furthermore, toxicity risks such as cross-reactivity with healthy tissues require mitigation or, preferably, preclinical screening or clinical management processes that avoid them altogether.”
- Logistical administration challenges

Bonifant CL, et al. *Mol Ther Oncolytics*. 2016;3:160
Hoos A. *Nat Rev Drug Discov*. 2016;15(4):235-47

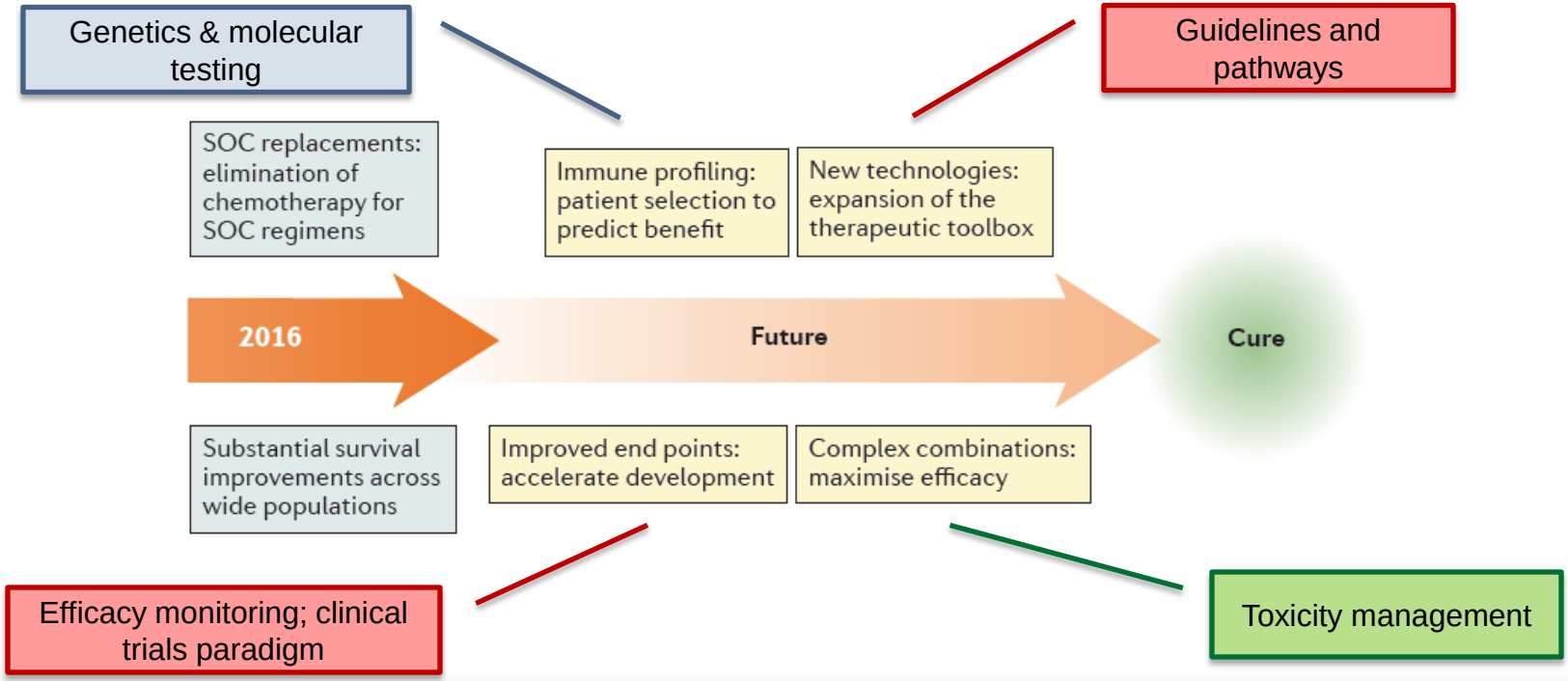
Next-Generation Immunotherapies

T-cell therapies

Innate immune mechanisms



Future Themes



Key References

- Hoos A, et al. *Clin Cancer Res*. 2015;21(22):4989-91.
- Bonifant CL, et al. *Mol Ther Oncolytics*. 2016;3:16011
- Hoos A. *Nat Rev Drug Discov*. 2016;15(4):235-47
- Harris SJ, et al. *Cancer Biol Med*. 2016;13(2):171-93.
- Maude SL, et al. *Cancer J*. 2014;20(2):119-22.

Questions?

ICLIO | AN INSTITUTE OF ACCC